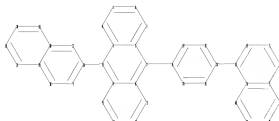


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exact bonds :
7-15 10-16 24-31
normalized bonds :
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PROJECTED ITERATIONS: BATCH ***COMPLETE**
PROJECTED ANSWERS: 0 TO 3066
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26094 ELECTROLUMINESCENCE
5 ELECTROLUMINESCENCE OR ELECTROLUMINESCENCES
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12 14 AND ELECTROLUMINESCENCE OR ELECTROLUMINESCENCES
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LI ANSWER 1 OF 12 CAPLUS COPYRIGHT 2006 ACS on STN

Accession Number 2006 02397 CAPLUS FullText

Document Number 151136198

Title

Organic electroluminescence device using indenopyrene derivative

Author/Inventor

Kawamura, Yutchori, Saito, Hiroyuki, Ikeda, Kiyoshi

Patent Assignee/Corporate Source

Idemitsu Kosan Co. Ltd., Japan

Source

Jpn Kokai Tokkyo Koho, 121sp CODEN JCOOAF

Document Type

Patent

Language

Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2009152528	A	20090709	JP 2008-178498	20080708
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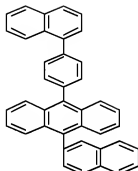
# Abstract

The invention relates to an organic electroluminescent device comprising an interface-improving layer, a hole transport layer, and an electroluminescent layer, fabricated in that order between an anode and a cathode, wherein the interface-improving layer contains an indoleperylene represented by I or II [III-20 = H, C5-10 aromatic residues, heteroatom: residues containing 3-5o atoms, and C1-10 alkyl].

# HR Structure

CAS Registry Number  
667940-14-3 CAPLUS

Chemical or Trade Name  
Anthracene, 9-(2-naphthalenyl)-10-[4-(1-naphthalenyl)phenyl]- (CA 30505X  
30505X)



L5 ANSWER 2 OF 12 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number  
2009797998 CAPLUS [Full text](#)

Document Number  
151111544

# Title

Aromatic amine derivatives and organic electroluminescence device using the same

# Author/Inventor

Yabumochi, Naohiro, Kawamura, Masahiro

Patent Assignee/Corporate Source  
Idemitsu-Kosan Co. Ltd., Japan

# Source

U.S. Pat. Appl. Publ. 29pp CODEVN USXKCO

# Document Type

Patent

# Language

English

# Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 20090187161	A1	20090702	US 2006-196497	20060626
WO 2009064268	A1	20090709	WO 2006-064750	20060619

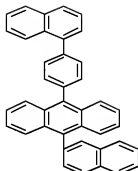
# Abstract

Provided are an organic electroluminescence device and an aromatic amine derivative for realizing the device. The aromatic amine derivative improves the luminous efficiency of an organic electroluminescence device using the derivative, and its mols. hardly crystallize. The organic electroluminescence device has an organic thin film layer composed of one or a plurality of layers including at least a light emitting layer, the organic thin film layer being interposed between a cathode and an anode, and at least one layer of the organic thin film layer, especially a hole transporting layer contains the aromatic amine derivative alone or as a component of a mixture, so the organic electroluminescence device can be produced in improved yield, and has a long lifetime.

# HR Structure

CAS Registry Number  
667940-14-3 CAPLUS

Chemical or Trade Name  
Anthracene, 9-(2-naphthalenyl)-10-[4-(1-naphthalenyl)phenyl]- (CA 30505X  
30505X)



US ANSWER 3 OF 12 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number: 2007196186 CAPLUS [Full text](#)

Document Number: 191159467

Title: Emitting materials for organic electroluminescence devices

Author/Inventor: Aono

Patent Assignee/Corporate Source: Germany

Source: JP com Journal (2008), 8(10B), 16-17 (No. IPCOM000175552D), 13 Oct 2008 CODEN: LIPOBX; ISSN: 1539-0001

Document Type: Journal/Patent

Language: German

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	IP	175552D	20081013	IP 2008-175552D
				20081013

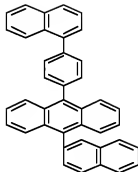
Abstract:

Organic semiconductor devices are presented, and their application in electroluminescence devices is discussed. Especially, aromatic amines are tested derived from monobenzosubstituted benzene. They are used as hole injection and hole transport material as well as emitting material. When the monobenzosubstituted benzene unit is substituted with 1 or 2 diaryl groups, the resulting compounds are especially suitable for applications in the organic electroluminescence devices. These compounds can act as efficient emitters, when they are applied as a dopant for host materials derived from anthracene. Two hundred and sixty-four compounds in combination with 30 host materials were tested for their performance in organic light-emitting diodes.

HR Structure

CAS Registry Number: 667940-34-3 CAPLUS

Chemical or Trade Name: Anthracene, 9-(2-naphthalenyl)-10-(4-(1-naphthalenyl)phenyl)- (CA 33003X RNS)



US ANSWER 4 OF 12 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number: 2007196186 CAPLUS [Full text](#)

Document Number: 14820800

Title: White-emitting organic electroluminescence device satisfying an ionization potential relationship for carrier barrier layer and first emitting layer

Author/Inventor: Jinde, Yukio; Kuma, Hitoshi

Patent Assignee/Corporate Source: Idemitsu Kosan Co., Ltd., Japan

Source: U.S. Pat. Appl. Publ. 34 pp CODEN: USXKXO

Document Type: Patent

Language: English

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2007027327D	A1	20071129	US 2006-475081	200606027
WO 2007138906	A1	20071206	WO 2007-JP60345	200705021
EP 1993997	A1	20080818	EP 2007-743779	200709021
JP 4154280	B2	20080820	JP 2008-517846	200705021
KR 2008044851	A	20080821	KR 2008-703360	20080304
CN 101403887	A	20090408	CN 2007-80009536	20080917

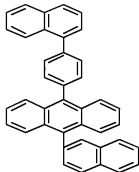
Abstract:

An organic electroluminescent device including an anode, a first emitting layer, a carrier barrier layer, a second emitting layer, and a cathode stacked in that order. The first emitting layer is formed of a hole transporting material, and the second emitting layer is formed of an electron transporting material. The affinity level of the carrier barrier layer is smaller than the affinity level of the second emitting layer in an amount of 0.2 eV or more, and the ionization potential (I<sub>1</sub>) of the carrier barrier layer and the ionization potential (I<sub>2</sub>) of the first emitting layer satisfy I<sub>1</sub> < I<sub>2</sub> + 0.1 (eV). Thus, an OLED was fabricated as follows: [ITO (130 nm)]/HT film (15 nm, 4,4'-bis[4-(4-phenylphenyl)phenyl]biphenyl)/first red-emitting layer (first host, Eg 2.4 eV, 5,17-bis[4-(4-phenylphenyl)phenyl]fluorene, red dopant = 8, total thickness 5 nm such that dopant concentration was 0.5 at %)/carrier barrier layer (3 nm HT film, pAT (eV) = 5.8(±0.30)/second blue-emitting layer with pAT (eV) = 5.8(±0.30) blue host = 9-(2-naphthyl)-10-(4-(1-naphthylphenyl)phenyl)anthracene, blue dopant = II, total thickness 40 nm such that dopant concentration was 1.5 at %)/ET layer Alq3 (20 nm)/ET layer L1 (5 nm)/Ca cathode (150 nm) in which red emission + blue emission + a carrier barrier layer with a small affinity level were provided, yielding excellent white emission (x, y) = (0.27, 0.26) with external quantum efficiency of 7.6%, the comparative example that lacked the barrier layer exhibited CIE 1931 chromaticity (x, y) = (0.5, 0.31), e.g., significantly apart from white (0.33, 0.33), so that red became strong and white could not be obtained.

HR Structure

CAS Registry Number: 667940-34-3 CAPLUS

Chemical or Trade Name  
Anthracene, 9-[2-naphthalenyl]-10-[4-(1-naphthalenyl)phenyl]- CDA 3808X  
H406



L5 ANSWER 5 OF 12 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number 2007133204 CAPLUS Full-text

Document Number 147531191

Title

Organic electroluminescence element

Author/Inventor Kame, Hitoshi; Yamamoto, Hiroshi; Hosokawa, Chishio

Patent Assignee/Corporate Source Yamitsu Kasei Co., Ltd., Japan

Source PCT Int. Appl., 69 pp. CODEN PRXKD2

Document Type Patent

Language Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2007132704	A1	20071122	WO 2007JP39564	20070909
EP 2034803	A1	20090311	EP 2007-742999	20070909
KR 2009007749	A	20090130	KR 2006-727476	20061110
US 20090206736	A1	20090820	US 2006-906132	20061110
CN 101444141	A	20090527	CN 2007-50617962	20061111

Abstract

In an organic EL element, at least two organic light emitting layers are arranged between an anode and a cathode, and at least one intermediate connecting layer is arranged between the organic light emitting layers. In the intermediate connecting layer, an acceptor layer, a donor layer and an electron transport material layer including an aromatic ring-compound which is not a metallic complex are laminated in this order from the side of the cathode.

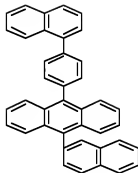
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CAS Registry Number 667940-34-3 CASL/05

Chemical or Trade Name

Anthracene, 9-(2-naphthalenyl)-10-[4-(1-naphthalenyl)phenyl]- (CA 38080X)

SMILES



L5 ANSWER 6 OF 12 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number 2007199801 CAPLUS Full-text

Document Number 147334331

Title

Red organic electroluminescence element

Author/Inventor Ikeda, Kiyoshi; Ito, Mitsunori

Patent Assignee/Corporate Source Yamitsu Kasei Co., Ltd., Japan

Source PCT Int. Appl., 55pp. CODEN PRXKD2

Document Type Patent

Language Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2007099802	A1	20070907	WO 2007JP32957	20070219
KR 2008008376	A	20081107	KR 2006-720457	20060821
US 20090032118	A1	20090205	US 2006-780473	20061001

Abstract

There is provided an organic electroluminescence element in which a single or a plurality of the organic layers including at least a light-emitting layer are sandwiched between a neg. electrode and a pos. electrode. At least one of the the organic layers includes: (A) a polycyclic compound having at least one halogen atom in its mol., and (B) a compound having a fused aromatic ring with a nucleus C number of 12 to 15. The organic EL element has a high light-emitting efficiency and a long lifetime and can emit orange to red light.

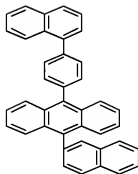
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CAS Registry Number 667940-34-3 CASL/05

Chemical or Trade Name

Anthracene, 9-(2-naphthalenyl)-10-[4-(1-naphthalenyl)phenyl]- (CA 38080X)

SMILES



15 ANSWER 7 OF 12 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number 2007 793551 CAPLUS Eui30.0

Document Number 147 166460

# Title

Preparation of aromatic amine derivatives for organic electroluminescent devices

Author/Inventor

Yabumuchi, Nobuhito, Moriaki, Fumio

Patent Assignee/Corporate Source

Idemitsu Kosan Co. Ltd., Japan

Source

PCT Int. Appl. 61pp CODEN PXIDDE

Document Type

Patent

Language

Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2007080704	A1	20070719	WO 2006-JP322710	20061115
JP 2007186461	A	20070726	JP 2006-6433	20060113
US 20070167654	A1	20070719	US 2006-371056	20060309
EP 1972613	A1	20060924	EP 2006-632641	20061115
KR 2008083148	A	20080916	KR 2006-716920	20060711
CN 101370788	A	20090218	CN 2006-6005997	20060714

# Abstract

This invention pertains to a method for producing aromatic amine deriva-1 [wherein R1-R7 = independently H, (un)substituted aryl, alkyl, etc.; m, mn, n, m, p, q = independently 0-4, qq = 1-3, Ar1 and Ar2 = independently (un)substituted aryl] useful in organic electroluminescent devices which are lowered in the driving voltage and have long lifetimes. For example, the compound II was prepared in a multi-step synthesis. II showed good electroluminescent properties.

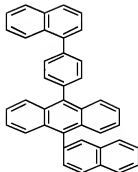
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CAS Registry Number

667940-34-3 CAPLUS

Chemical or Trade Name

Anthracene, 9-(2-naphthalenyl)-10-[4-(1-naphthalenyl)phenyl]- (CA 33028X 33062)



09 CITING REF COUNT: 2 THERE ARE 2 CAPLUS RECORDS THAT CITE THIS RECORD (4 CITINGS)

15 ANSWER 8 OF 12 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number 2007 286585 CAPLUS Eui30.0

Document Number 146 326093

Title  
Method for producing aromatic compound and aromatic compound

Author/Inventor  
Moriwaki, Fumio; Matsunaga, Hidehiro; Inoue, Tetsuya

Patent Assignee/Corporate Source  
Idemitsu Kosan Co., Ltd., Japan

Source  
U.S. Pat. Appl. Publ., 21pp. CODEN USXXCO

Document Type  
Patent

Language  
English

Patent Information

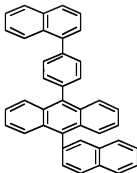
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 7007066/777	A1	2007/0315	US 2006-473178	2006/0623
US 7547809	B2	2009/0616		
JP 2007077078	A	2007/0329	JP 2005-267409	2005/0914
WO 2007030131	A1	2007/0322	WO 2006-JP312111	2006/0616
EP 1947076	A1	2008/0723	EP 2006-766799	2006/0616
CN 101263097	A	2008/0910	CN 2006-80039108	2006/0910
KR 2008048857	A	2008/0527	KR 2006-706132	2006/0523
IN 2008CH01256	A	2008/1128	IN 2006-CH1256	2006/0913
US 20090206748	A1	2009/0820	US 2009-430093	2009/0429

**Abstract**  
A process for producing an aromatic compound which can effectively decrease the contents of halogen elements in the aromatic compound and an aromatic compound which is produced in accordance with the process and useful as the material for obtaining an organic electroluminescence device having a long life are provided. The process for producing an aromatic compound comprises bringing an aromatic compound which is produced via an intermediate compound having halogen elements and has contents of halogen elements of 10 to 1,000 ppm by mass into reaction with a dehalogenating agent to decrease the contents of halogen elements to 10 ppm by mass or smaller, and an aromatic compound which is produced in accordance with the process.

**Hit Structure**

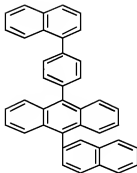
CAS Registry Number  
667940-34-3 CNF1/08

Chemical or Trade Name  
Anthracene, 9-(2-naphthalenyl)-10-[4-(1-naphthalenyl)phenyl]- (CA 33028X  
30NG)



CAS Registry Number  
667940-34-3 CNF1/08

Chemical or Trade Name  
Anthracene, 9-(2-naphthalenyl)-10-[4-(1-naphthalenyl)phenyl]- (CA 33028X  
30NG)







L5 ANSWER 9 OF 12 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number  
20061013826 CAPLUS [Full-text](#)

Document Number  
143365969

Title

Aromatic amine derivative and organic electroluminescent device employing the same  
Author/Inventor  
Kawamura, Masahiro, Yabumochi, Nobuhiko, Hosokawa, Chishio

Patent Assignee/Corporate Source  
Mitsubishi Kasei Co., Ltd., Japan

Source  
U.S. Pat. Appl. Publ., 45pp CODEN USOXCO

Document Type  
Patent

Language  
English

Patent Information

PATENT NO	KIND	DATE	APPLICATION NO	DATE
US 20060217972	A1	20060908	US 2006-362139	20060227
WO 2006103848	A1	20061005	WO 2006-JP303157	20060222
US 20070176101	A1	20070724	US 2006-33002	20060321

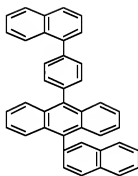
Abstract

To provide an organic electroluminescent device showing various luminescent color tones and having high heat resistance, a long lifetime, high emission luminance, and high emission efficiency, in particular, an organic electroluminescent device capable of preventing the attenuation of emission luminance in association with the driving of the device is provided. Provided is an organic electroluminescent device including: an aromatic amine compound A1(Ar1Zn1), A1(Ar1Zn1)/A1(Ar1Zn1)/A1(Ar1Zn1) (Ar1-Ar6 are each independently an (un)substituted aryl group having 5-20 nuclear atoms, L1-L3 are each independently (un)substituted 1,1'-biphenyl-4,4'-diyl linking groups, wherein Ar1-Ar6 satisfy one of the following conditions: (a) at least two of Ar1-Ar2 each represent an (un)substituted C10-C20 fused aromatic ring; (b) at least one of Ar3 and Ar4 represents an (un)substituted C10-C20 fused aromatic ring; (c) only one of Ar1, Ar2, Ar3, and Ar5 represents an (un)substituted C10-C20 fused aromatic ring; a cathode, an anode, and one or multiple organic thin film layers having at least a light-emitting layer, the one or multiple organic thin film layers being interposed between the cathode and the anode, in which at least one layer of the one or multiple organic thin film layers contains the aromatic amine compound alone or as a component of a mixture. Thus, e.g., coupling reaction of 4-[1-(naphthyl)phenyl]ethanol-1,1'-biphenyl (preparation given) with 10-(2'-[1-(naphthyl)-4,4'-biphenyl]-4'-biphenyl) (preparation given) afforded 7A-2 (i) that was incorporated into the following blue-emitting electroluminescent device ITO anode, 1.1 nm TA-2 hole-transporting layer, 60 nm BML + D1 (602), light-emitting layer, 40 nm, where BML = 5-[4-(naphthyl)phenyl]-10-(2-naphthyl)anthracene, D1 = 4,4'-bis(5-(naphthyl)amino)biphenyl (Ar6) electron-accepting layer, 10 nm (Ar6) (electron-accepting layer, 10 nm) (Ar6) (cathode) that exhibited lifetime of initial luminance of 5000 cd/m<sup>2</sup> at 350 ± 100 h when I<sub>0</sub> (initial luminance of 10000 cd/m<sup>2</sup>) at which all 1-naphthyl groups are replaced with Ph groups) was used instead of L.

Hit Structure

Chemical Structure  
4-[1-(naphthyl)phenyl]ethanol-1,1'-biphenyl

Chemical or Trade Name  
4-[1-(naphthyl)phenyl]ethanol-1,1'-biphenyl (Ar6) (Ar6) (cathode) that exhibited lifetime of initial luminance of 5000 cd/m<sup>2</sup> at 350 ± 100 h when I<sub>0</sub> (initial luminance of 10000 cd/m<sup>2</sup>) at which all 1-naphthyl groups are replaced with Ph groups) was used instead of L.



L5 ANSWER 10 OF 12 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number  
20051005066 CAPLUS [Full-text](#)

Document Number  
143365937

Title

Organic electroluminescent display device  
Author/Inventor  
Yamamoto, Keiko, Fukuzaki, Kenichi, Yuasa, Kenjiro, Hosokawa, Chishio, Kuma, Hiroshi

Patent Assignee/Corporate Source  
Mitsubishi Kasei Co., Ltd., Japan

Source  
PCT Int. Appl., 70 pp CODEN PXOXD2

Document Type  
Patent

Language  
Japanese

Patent Information

PATENT NO	KIND	DATE	APPLICATION NO	DATE
WO 2005056539	A1	20050919	WO 2005-JP2558	20050218
EP 1772804	A1	20061115	EP 2005-710391	20050218
CN 1914908	A	20070214	CN 2005-90004027	20050218
CN 100484356	C	20060429		
KR 2006125799	A	20061229	KR 2006-717904	20060904
US 20070200123	A1	20070830	US 2006-091608	20060905

Abstract

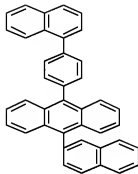
An organic EL display device has a substrate, and a first organic EL element part and a second organic EL element part which are arranged in parallel on the same plane of the substrate. The first organic EL element part at least includes a light reflecting conductor layer, an organic light emitting medium layer in the order, and anode or cathode of the organic light emitting medium layer or the transparent electrode layer, a light reflecting layer is provided. The second organic EL element part at least includes the light reflecting conductor layer, a first energy compound layer, an organic light emitting medium layer and a transparent

electrode layer in this order, and inside or outside of the organic light-emitting medium layer or the transparent electrode layer, the light reflecting layer is provided. The emission spectrum of light emitted from the first organic EL element part and that from the second organic EL element part are different.

#### HR Structure

CAS Registry Number  
667940-34-3 CASI/IS

Chemical or Trade Name  
Anthracene, 9-[2-naphthalenyl]-10-[4-{1-naphthalenyl}phenyl]- (CA INDEX NAME)



09 CITING REF COUNT: 2 THERE ARE 2 CAPLUS RECORDS THAT CITE THIS RECORD (3 CITINGS)

15 ANSWER 11 OF 12 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number  
2009 962579 CAPLUS Fulltext

Document Number  
143256816

Title  
White organic electroluminescence device

Author/Inventor  
Takami, Hiroshi, Fukukita, Kenichi, Kubota, Mineyuki, Funahashi, Masakazu

Patent Assignee/Corporate Source  
Idemitsu Kosan Co., Ltd., Japan

Source  
PCT Int. Appl., 63 pp. CODEN: POKDZ

Document Type  
Patent

Language  
Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005011567	A1	20050901	WO 2005-JP2442	20050217
EP 1718124	A1	20061102	EP 2005-719244	20050217
CN 1678454	A	20061213	CN 2005-00001279	20050217
US 20070693636	A1	20070922	US 2006-573661	20060325
KR 2006113972	A	20061106	KR 2006-06166	20060427

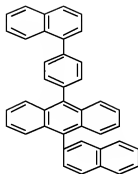
#### Abstract

The invention refers to a white organic electroluminescence device comprising a neg. electrode and a pos. electrode and, interposed there between, one or more organic thin film layers including at least a light emitting layer, wherein the light emitting layer is constituted of a laminate of blue color light emitting layer and yellow-to-red color light emitting layer and contains an asym. condensed-ring-containing compound. This white color organic electroluminescence device realizes reduced chromaticity changes and excels in luminous efficiency and thermal stability, ensuring strongly prolonged service life.

#### HR Structure

CAS Registry Number  
667940-34-3 CASI/IS

Chemical or Trade Name  
Anthracene, 9-[2-naphthalenyl]-10-[4-{1-naphthalenyl}phenyl]- (CA INDEX NAME)



06.CITING REF COUNT: 3 THERE ARE 3 CAPLUS RECORDS THAT CITE THIS RECORD  
(7 CITINGS)

LS ANSWER 12 OF 12 CAPLUS COPYRIGHT 2009 ACS on STN  
Accession Number  
2004182956 CAPLUS Fulltext  
Document Number  
140243295

Title  
Organic electroluminescence device and anthracene derivative

Author/Inventor  
Hachi, Hirotugu, Ito, Motohisa, Furutashii, Masakazu

Patent Assignee/Corporate Source  
Idemitsu Kosen Co., Ltd., Japan

Source  
PCT Int. Appl., 99 pp. CODIN: PKXDZ

Document Type  
Patent

Language  
Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004/018567	A1	2004/03/04	WO 2003-JP10402	2003/08/18
EP 1353154	A1	2005/07/13	EP 2003-792695	2003/08/18
CN 1678711	A	2005/10/05	CN 2003-019858	2003/08/18
CN 100509693	C	2009/06/24		
TW 264485	B	2007/07/21	TW 2003-02122650	2003/08/18
JP 4041816	B2	2008/02/06	JP 2004-030396	2003/08/18
US 2006/0043856	A1	2006/02/02	US 2005-024823	2005/02/18
IN 2005CH02208	A	2007/09/07	IN 2005-CH0208	2005/02/02
JP 2006/007785	A	2006/01/17	JP 2007-219766	2007/08/27
JP 2008/239917	A	2008/01/02	JP 2006-106614	2006/04/16
KR 2009/035045	A	2009/04/08	KR 2009-705383	2009/03/18

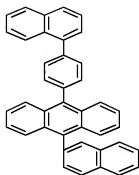
#### Abstract

An organic electroluminescence device comprises a neg. electrode and a pos. electrode and, interposed there between, one or two or more organic thin-film layers including at least a luminescent layer, wherein at least one of the organic thin-film layers contains an anthracene derivative of specified structure added alone or as a component of mixture, and an anthracene derivative of asym. specified structure. There are provided an organic electroluminescence device of high luminous efficiency and long life and an anthracene derivative for realizing the same.

#### Hit Structure

CAS Registry Number  
667940-34-5 CAPLUS

Chemical or Trade Name  
Anthracene, 9-[2-(naphthalenyl)]-10-[6-[1-(naphthalenyl)]phenyl]- (CA 38082X)  
38082X



00 .CITING REF COUNT: 10 THERE ARE 10 CAPLUS RECORDS THAT CITE THIS  
RECORD (32 CITINGS)

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---Logging off of STM---

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Executing the logoff script ...

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(FILE 'NAME' ENTERED AT 10:17:14 ON 14 OCT 2009)
FILE 'REGISTRY' ENTERED AT 10:17:28 ON 14 OCT 2009
L1 STRUCTURE UPLOADED -
L2 0 L1 FAN SAM
L3 0 SEA FILE=REGISTRY FAN SAM L1
L3 1 SEA FILE=REGISTRY FAN FUL L1
FILE 'CAPLUS' ENTERED AT 10:18:43 ON 14 OCT 2009
L4 11 SEA FILE=CAPLUS STD=ON AMB=ON FUD=ON L3
L5 11 SEA FILE=CAPLUS STD=ON AMB=ON FUD=ON L4 AND ELECTROLYNESKES
NCE
D TERN ARE BUTTER 1-

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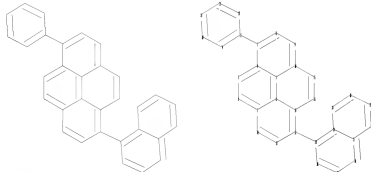
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7-17 12-18
ring bonds :
1-2 1-6 1-14 2-3 3-4 4-5 4-7 5-6 5-10 6-11 7-8 8-9 9-10 10-15 11-12 11-16 12-13 13-14 15-16 17-19 17-23 18-24 18-28 19-20 20-21 21-22 22-23 24-25 24-29 25-26 25-32 26-27
27-28 28-30 30-31 31-32
each bonds :
7-17 12-18
normalized bonds :
1-2 1-6 1-14 2-3 3-4 4-5 4-7 5-6 5-10 6-11 7-8 8-9 9-10 10-15 11-12 11-16 12-13 13-14 15-16 17-19 17-23 18-24 18-28 19-20 20-21 21-22 22-23 24-25 24-29 25-26 25-32 26-27
27-28 28-30 30-31 31-32
isolated ring systems :
containing 1 : 27

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Match level :
1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:Atom 11:Atom 12:Atom 13:Atom 14:Atom 15:Atom 16:Atom 17:Atom 18:Atom 19:Atom 20:Atom 21:Atom 22:Atom
23:Atom 24:Atom 25:Atom 26:Atom 27:Atom 28:Atom 29:Atom 30:Atom 31:Atom 32:Atom

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L1 STRUCTURE UPLOADED
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SAMPLE SCREEN SEARCH COMPLETED - 2279 TO ITERATE 1 ANSWERS
87.8% PROCESSED 2000 ITERATIONS
INCOMPLETE SEARCH (9979% LIMIT EXCEEDED)
SEARCH TIME: 00:00:01
FULL FILE PROJECTIONS: ONLINE **COMPLETE**
MATCH **COMPLETE**
PROJECTED ITERATIONS: 4717 TO 48443
PROJECTED ANSWERS: 2 TO 86
L2 1 SEA RES SAM L1
>> # 11 see full
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100.0% PROCESSED 45339 ITERATIONS
SEARCH TIME: 00:00:02

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L3 7 8EA 888 PUS L3  
 => a 12  
 L3 NOT FOUND  
 The L-number entered has not been defined in this session, or it has been deleted. To see the L-numbers currently defined in this session, enter DISPLAY HISTORY at an arrow prompt. (==)  
 => a 13 5 L3  
 L4  
 => d 1818 abs blate 3-  
 NO DATA REQUESTED DATA FROM 3 ANSWERS - CONTINUE? Y/N (==)

L4 ANSWER 1 OF 8 CAPLUS COPYRIGHT 2009 ACS on STN  
 Accession Number  
 200889084 CAPLUS PubNo  
 Document Number  
 148115416

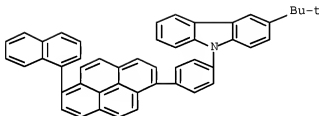
Title  
 Materials for light-emitting devices  
 Author/Inventor  
 Kawemoto, Kazunori; Murase, Seichiro; Nagai, Kazuma  
 Patent Assignee/Corporate Source  
 Toyoh Industries, Inc., Japan  
 Source  
 Jpn. Kokai Tokkyo Koho, 27pp. OODEN: JKKAF

Document Type  
 Patent  
 Language  
 Japanese  
 Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2008159843	A	20080710	JP 2006-347112	20061225

Abstract  
 The materials contain pyrene compounds (B), where R1 apps: R17 = H, alkyl, cycto-ethyl or heterocyclic group; Ar = arylene or hetero-arylene group, z1 of R1 apps: R17 = ethyl group, R2 and/or R5 = aryl or hetero-aryl group; or R4 = alkyl or cycto-ethyl group.  
 HR Structure

CAT Registry Number  
 135123-77-3 CASREG  
 Chemical or Trade Name  
 9H-Carbazole, 3-[[4-(6-methyl-2-ethyl-1H-naphthalenyl)-1-pyrenyl]phenyl]- (CA INDEX NAME)



L4 ANSWER 2 OF 8 CAPLUS COPYRIGHT 2009 ACS on STN  
 Accession Number  
 200778069 CAPLUS PubNo  
 Document Number  
 147153732

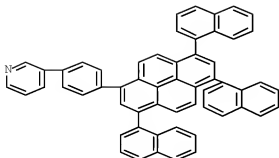
Title  
 Pyrene-based electron transporting compounds and organic light emitting devices with decreased driving voltage comprising the electron transporting compound  
 Author/Inventor  
 Kim, Jung Kwon; Seo, Jeongbin; Jeong, Hyun Chul; Bn, Jong Kwan; Park, Changun  
 Patent Assignee/Corporate Source  
 Lg Electronics Inc., S. Korea  
 Source  
 Eur. Pat. Appl., 36pp. COGEM EPXIXD

Document Type  
 Patent  
 Language  
 English  
 Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1808912	A2	20070718	EP 2007-776	20070116
KR 681027	B1	20070209	KR 2006-4687	20060116
KR 681025	B1	20070209	KR 2006-4688	20060116
KR 681026	B1	20070209	KR 2006-4689	20060116
US 20070167626	A1	20070719	US 2007-653243	20070116
CN 101003508	A	20070725	CN 2007-10008306	20070116

Abstract  
 Electron transporting compound with Formula (I) and organic light emitting devices employing the electron transporting compound to decrease driving voltage are provided, where A is a substituted or unsubstituted group consisting of pyridyl, quinolyl, isoquinolyl, quinoxalyl, benzimidazolyl, benzimidazolyl, and phenanthrolyl, and B and C are substituted or unsubstituted groups consisting of Ph, biaryl, naphthyl, fluorenyl, terphenyl, phenanthrolyl, phenanthryl, and aryl.  
 HR Structure

CAT Registry Number  
 933643-43-3 CASREG  
 Chemical or Trade Name  
 Pyridine, 3-[[4-(13,6,8-tri-2-naphthalenyl-1-pyrenyl)phenyl]- (CA INDEX NAME)



L4 ANSWER 3 OF 5 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number  
2007 084255 CAPLUS [Fulltext](#)  
Document Number  
146 34717

Title  
Light-emitting device material and light-emitting device

Author/Inventor  
Murasu, Seichiro; Nagao, Kazumasa; Sugimoto, Kazunori; Ishigaki, Takashi; Ogawa, Takatsumu  
Patent Assignee/Corporate Source  
Toray Industries, Inc., Japan

Source  
PCT Int. Appl. 112pp. CODEN: PXXXX2

Document Type  
Patent

Language  
Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2007028786	A1	20070313	WO 2006-091781	20060908
EP 1942171	A1	20080709	EP 2006-797666	20060908
CN 101258221	A	20080903	CN 2006-80032965	20080307
US 20090096358	A1	20090418	US 2008-991461	20080326
KR 2008055891	A	20080619	KR 2006-708341	20080407

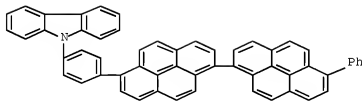
#### Abstract

Disclosed is a light-emitting device material containing a pyrene compound represented by I (R1-R10 = H, alkyl, cycloalkyl, heterocycloalkyl, alkenyl, cycloalkenyl, alkynyl, alkoxy, silylthio, aryl ether, aryl thioether, aryl, heteroaryl, halogen, aronyl, carbonyl, cyanoalkenyl, carbonyl, amino, phosphine oxide, and a silyl, adjacent substituents among R1-R10 may combine together to form a ring, n = integer 1, 2, 3, 4, 5, 6, 7, 8, and 9; R11-R19 = H, alkyl, cycloalkyl, heterocycloalkyl, alkenyl, cycloalkenyl, alkynyl, aryl, heteroaryl, and amino, R10 may form a ring together with R11 or R18; and Y = single bond, arylene and heteroarylene, and n of R1-R10 and one of R11-R19 are used for linkage with V). This light-emitting device material enables to provide a light-emitting device having high efficiency and excellent durability. Also disclosed is a light-emitting device using such a light-emitting device material.

#### HI Structure

CAS Registry Number  
929100-19-6 CAPLUS

Chemical or Trade Name  
5B-Casbazole, 9-[4-(6'-phenyl[3,3'-bipyrene]-6-yl)phenyl]- (CA INDEX NAME)



09 CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD (1 CITING REF)

L4 ANSWER 4 OF 5 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number  
2007 28414 CAPLUS [Fulltext](#)  
Document Number  
146 121699

Title  
Process for preparation of pyrene derivatives for use in organic electroluminescence devices

Author/Inventor  
Ito, Mitsunori; Kubota, Mineyuki  
Patent Assignee/Corporate Source  
Idemitsu Kosan Co., Ltd., Japan

Source  
PCT Int. Appl. 67pp. CODEN: PXXXX2

Document Type  
Patent

Language  
Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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WO 2007004364	A1	20070111	WO 2006-JP310194	200606029
JP 2007015961	A	20070125	JP 2005-197765	20050706
EP 1905754	A1	20080402	EP 2006-746728	200602023
US 20080124571	A1	20080529	US 2007-928813	20071029
US 7385574	B2	20090908		
CN 101213161	A	20080702	CN 2006-80024361	20080103
KR 2008027332	A	20080326	KR 2008-700282	20080104
IN 2008CH06622	A	20081128	IN 2008-CN602	20080206

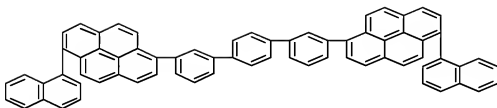
#### Abstract

This invention pertains to a method for producing pyrene derivs via coupling reaction, for the use in organic electroluminescence devices comprising a neg. electrode and a pos. electrode and, interposed there between, one or two or more organic thin film layers including at least a light emitting layer, wherein at least one of the organic thin film layers contains the pyrene derivative alone or as a component of mixture. For example, the compound I was prepared in a three-step synthesis starting from pyrene-1-boronic acid and 3-bromo-1-iodobenzene in good yield. Thus, there is provided an organic electroluminescence device of high luminous efficiency capable of prolonged blue light emission.

#### Hit Structure

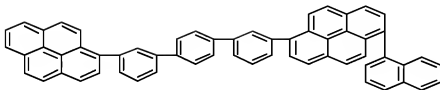
CAS Registry Number  
918654-69-0 CASLN5

Chemical or Trade Name  
Pyrene, 1-[3-(1,3',4',5''-terphenyl)-3,3''-diyl]bis[6-(1-naphthalenyl)]-  
(CA INDEX NAME)



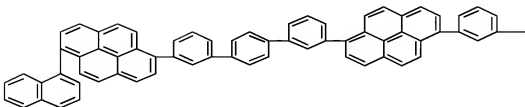
CAS Registry Number  
918654-75-0 CASLN5

Chemical or Trade Name  
Pyrene, 1-[3-(1-naphthalenyl)-6-(3'''-[3-(2-naphthalenyl)phenyl]-3-y]-  
(CA INDEX NAME)



CAS Registry Number  
918654-79-2 CASLN5

Chemical or Trade Name  
Pyrene, 1-[3-(1-naphthalenyl)-6-(3'''-[6-[3-(2-naphthalenyl)phenyl]-3-y]-  
phenyl)]-[1,3',4',5''-terphenyl]-3-y]- (CA INDEX NAME)







06 .CITING REF COUNT: 1 THERE ARE 1 CAPJUS RECORDS THAT CITE THIS RECORD  
(1 CITINGS)

Accession Number 2002-087225 CAPLUS File type

Document Number 137.377245

Title

Organic electroluminescent device containing aromatic condensed ring compound

Author/Inventor

Suzuki, Kazuo; Senoo, Akihito; Tamabe, Hiroshi

Patent Assignee/Corporate Source

Canon Inc., Japan

Source

Jpn. Kokai Tokkyo Koho, 50 pp. CODEN: JPOKAF

Document Type

Patent

Language

Japanese

Patent Information

PATENT NO.	KFIG	DATE	APPLICATION NO.	DATE
JP 200232500	A	20021115	JP 2000-36804	20020214
JP 3870102	B2	20070117		
US 20020177009	A1	20021126	US 2000-77806	20020220
US 6836828	B2	20041124		
US 20050046318	A1	20050903	US 2004-040734	20040915
US 6949422	B2	200609207		
JP 2007013199	A	20070118	JP 2005-230660	20060628

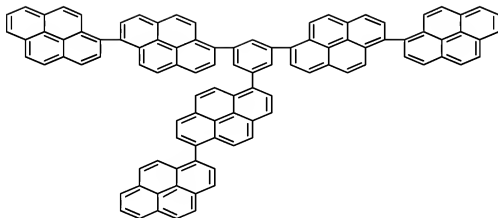
Abstract

The electroluminescent device has 1 organic layer containing aromatic condensed ring compound a benzene substituted with R1-4 and Ar1-2 (I), a benzene substituted with R5-7 and Ar3-5 (II), or a benzene substituted with R8-9 and Ar6-9 (III) (R1-R9 = H, alkyl (substituted/unsaturated), (substituted)heterocycle, (substituted)amino, cyano; Ar1-Ar9 = (substituted)aromatic condensed ring, (substituted)condensed heterocycle, optionally linked via phenylene), preferably a diene compound (R5-R7 = H, Ar3-Ar5 = LH at 1,3,5-positions, L = 2,5-dimethylfluorene-2,7-diyl), (R5-R7 = H, Ar3-Ar5 = LH at 1,3,5-positions, or II (R8 = R9 = H, Ar6-Ar9 = LH at 1,2,4,5-positions), as electron-transporting or light-emitting layers between a cathode and an anode. The organic layer in the device is useful as an electron-transporting layer, an emitting layer, and a hole/electron-blocking layer and the device shows high emission, low driving voltage, and improved durability.

FIG. 1

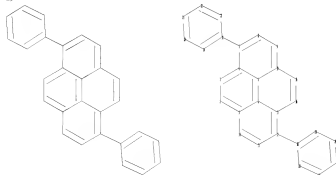
Chemical or Trade Name

1,1'-bis(p-phenylene)-4,4'-bis(2,3,6-benzotriptyl)trien- (CA INDEX NAME)



OS CITING REF COUNT: 14 THERE ARE 14 CAPLUS RECORDS THAT CITE THIS RECORD (28 CITINGS)

10



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chain bonds :
7-17 13-18
ring bonds :
1-2 1-6 1-14 2-3 3-4 4-5 4-7 5-6 5-10 6-11 7-8 8-9 9-10 10-15 11-12 11-16 12-13 13-14 15-16 17-19 17-23 18-24 18-28 19-20 20-21 21-22 22-23 24-25 25-26 26-27 27-28
each bonds :
7-17 13-18
ocwallbond bonds :
1-2 1-6 1-14 2-3 3-4 4-5 4-7 5-6 5-10 6-11 7-8 8-9 9-10 10-15 11-12 11-16 12-13 13-14 15-16 17-19 17-23 18-24 18-28 19-20 20-21 21-22 22-23 24-25 25-26 26-27 27-28
isolated ring systems :
containing 1 + 17

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Match level :  
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23:Atom 24:Atom 25:Atom 26:Atom 27:Atom 28:Atom

#### 15 STRUCTURE UPLOADED

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17 157 L6

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18 14 L7 AND ELECTROLUMINESCENCE

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L6 ANSWER 1 OF 14 CAPLUS COPYRIGHT 2009 ACS on STM

Accession Number  
2009 02065 CAPLUS Fulltext

Document Number  
151159940

Title  
Organic electroluminescent device allowing adjustment of chromaticity

Author/Inventor  
Kurohita, Masaru

Patent Assignee/Corporate Source  
Fujifilm Photo Film Co., Ltd., Japan

Source  
U.S. Pat. Appl. Publ. 13pp. CODEN: USXXCO

Document Type  
Patent

Language  
English

Patent Information

PATENT NO	KIND	DATE	APPLICATION NO.	DATE
US 20080189971	A1	20080807	US 2006-079061	20061027
TW 267822	B	20081201	TW 2004-93112026	20040429
WO 2005106835	A1	20051110	WO 2004-JP6304	20040430
CN 1977301	A	20070606	CN 2004-80042922	20040430
KR 2007020051	A	20070216	KR 2006-724970	20061125
KR 236542	B1	20080610		

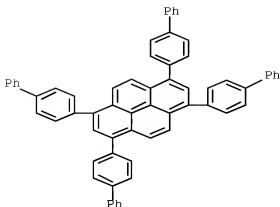
#### Abstract

Organic electroluminescent devices comprising an organic electroluminescent element comprising electrodes with an organic electroluminescent layer emitting white light at a chromaticity corresponding to a drive c.d. provided between the electrodes, and a drive unit driving the organic electroluminescent element by application of current or voltage and controlling the drive current and the period the current or voltage is applied per unit of time according to a chromaticity adjustment input, wherein in response to a first chromaticity adjustment input the drive unit controls, resp., the drive current or voltage to be a first current or voltage and the application period to be a first period, and in response to a second chromaticity adjustment input the drive unit controls, resp., the drive current or voltage to be a second current or voltage larger than the first current or voltage and the application period to be a second period shorter than the first period. Emission chromaticity can be adjusted while the brightness is kept constant. A liquid crystal display device employing an organic electroluminescent device as a backlight unit are also described.

#### HR Structure

CAS Registry Number  
790213-07-3 CAPLUS

Chemical or Trade Name  
Pyrene, 1,3,6,9-tetraakis[11,1'-biphenyl]-6-yl]- (CA INDEX NAME)



06 CITING REF CODE: 3 THERE ARE 3 CAPLUS RECORDS THAT CITE THIS RECORD (3 CITINGS)

LB ANSWER 2 OF 14 CAPLUS COPYRIGHT 2009 ACS on GTN

Accession Number

2008-018321 CAPLUS Fulltext

Document Number

148 437036

Title

Electroluminescent device material and electroluminescent device

Author/Inventor

Sugimoto, Kazunori; Murase, Seichiro

Patent Assignee/Corporate Source

Toray Industries, Inc., Japan

Source

Jpn. Kokai Tokkyo Koho, 29pp. OODEN JOKKAF

Document Type

Patent

Language

Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2008078362	A	20080403	JP 2008-255439	20080921

Abstract

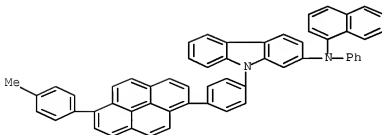
The invention relates to an electroluminescent device material, suited for use as an electroluminescence host material and a charge transporting material in an electroluminescent device, comprising a pyrene derivative represented by [R1-17 = H, alkyl, cycloalkyl, etc.; Ar1 = arylene and heteroarylene; Ar2 and Ar3 = aryl, heteroaryl and may join to form a ring, X = direct bond, arylene, and heteroarylene, n = 1-4 integer, and X may be linked at R10-17]

HR Structure

CAS Registry Number  
1013661-59-0 CAPLUS

Chemical or Trade Name

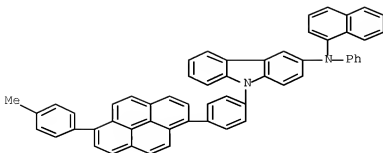
99-Carbazol-3-amine, 3-[6-[6-(4-methylphenyl)-3-pyrenyl]phenyl]-8-3-naphthalenyl-8-phenyl- (CA 1305X NAME)



CAS Registry Number  
1013661-61-8 CAPLUS

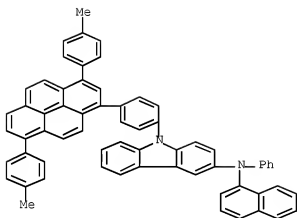
Chemical or Trade Name

99-Carbazol-3-amine, 3-[6-[6-(4-methylphenyl)-3-pyrenyl]phenyl]-8-3-naphthalenyl-8-phenyl- (CA 1305X NAME)



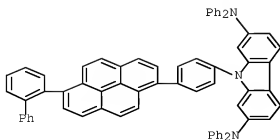
CAS Registry Number  
1013661-65-8 (CAS108)

Chemical or Trade Name  
9H-Carbazole-3-amine, 9-[4-[3,8-bis(4-methylphenyl)-1-pyrenyl]phenyl]-N-1-naphthyl-, (CA TRUCK NAME)



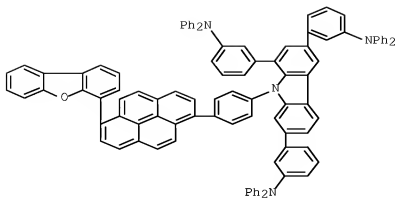
CAS Registry Number  
1013661-66-9 (CAS108)

Chemical or Trade Name  
9H-Carbazole-3-amine, 9-[4-[6-(7,1'-biphenyl)-2-yl-1-pyrenyl]phenyl]-N-2,8,7',8'-tetraphenyl-, (CA TRUCK NAME)



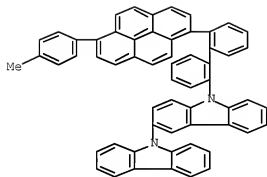
CAS Registry Number  
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Chemical or Trade Name  
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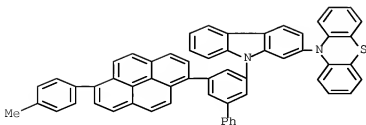
CAS Registry Number  
1013661-79-3 CAPLUS

Chemical or Trade Name  
3,9'-di-(4-methoxyphenyl)-3-pyrenyl[1,1'-biphenyl]-2-yl  
(CA, INDEX, NAME)



CAS Registry Number  
1013661-71-6 CAPLUS

Chemical or Trade Name  
10H-phenothiazine, 10-(9-(4-methylphenyl)-3-pyrenyl[1,1'-biphenyl]-3-yl)-9H-phenothiazine  
(CA, INDEX, NAME)



OR CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD  
(1 CITINGS)

18 ANSWER 3 OF 14 CAPLUS COPYRIGHT 2009 ACS on STN  
Accession Number

20071332264 CAPLUS PubText

Document Number  
147531191

Title  
Organic electroluminescence element  
Author/Inventor

Kuma, Hitoshi; Yamamoto, Hiroshi; Hosokawa, Chisato  
Patent Assignee/Corporate Source  
Idemitsu Kosan Co., Ltd., Japan

Source PCT Int. Appl., 69 pp. CODEN: PBXD2

Document Type  
Patent

Language  
Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2007132704	A1	20071122	WO 2007JP95064	20070909
EP 2034863	A1	20090311	EP 2007-742959	20070909
KR 2009007749	A	20090120	KR 2008-727476	20081110
US 20090206736	A1	20090820	US 2008-300132	20081110
CN 101444141	A	20090927	CN 2007-90017062	20081111

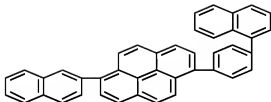
#### Abstract

In an organic EL element, at least two organic light emitting layers are arranged between an anode and a cathode, and at least one intermediate connecting layer is arranged between the organic light emitting layers. In the intermediate connecting layer, an acceptor layer, a donor layer and an electron transport material layer including an aromatic ring-compound which is not a metallic complex are laminated in this order from the side of the cathode.

#### Hit Structure

CAS Registry Number  
870714-30-3 CASUS

Chemical or Trade Name  
Eyronec, 1-(2-naphthalenyl)-6-(4-[3-naphthalenyl]phenyl)- (CA INDEX NAME)



LB ANSWER 4 OF 14 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number  
20071300762 CAPLUS Pub/Int

Document Number  
147541990

Title

Preparation of arylsilanes and organic electroluminescent device utilizing the same

Author/Inventor  
Ito, Mitsunori

Patent Assignee/Corporate Source  
Mitsubishi Kasei Co., Ltd., Japan

Source

PCT Int. Appl., 54pp CODEN: PEXXDE

Document Type

Patent

Language

Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
W/O 2007129702	A1	20071115	W/O 2007JP9499	20070508
K/R 2009018901	A	20090224	K/R 2008-72739	20081107
US 20100238975	A1	20090924	US 2009-299967	20090213

Abstract

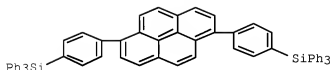
There is disclosed a novel silicon compound of a specific structure having a substituted silyl group (I). FA1 = (unsubstituted C8-50 condensed ring group, L1, L2, Ar1-Ar6 = each (unsubstituted C8-50 aromatic hydrocarbon), C8-50 aromatic heterocyclic, C8-50 condensed aromatic group, C1-10 alkyl, s, h, d, e = an integer of 0-6, provided that a = s+1, s = an integer of 1-6, when FA1 = anthracene and a = s+1, L1 = L2 = phenylene). There is also disclosed an organic electroluminescent device wherein an organic thin film composed of one or more layers including at least a light-emitting layer is interposed between a cathode and an anode. In this organic electroluminescent device, at least one layer of the organic thin film contains the silicon compound by itself or as a component of a mixture. The organic electroluminescent device enables to obtain light emission having high luminous efficiency, high color purity, and long life. Thus, 1,4-dichlorobenzene was treated with 1.4 M BuLi/hexane in toluene/ETC (1/1) at -78 to -20° for 10 min and at -20° for 1 h, treated dropwise with a solution of triphenylsilyl chloride in toluene at -75° over 20 min, and stirred for 1 h and at room temperature for overnight to give 45.4% (4-dodecylphenyl)phenylsilane (II). II and 2-(9-(1-naphthyl)anthracen-5-yl)phenylboronic acid were heated in the presence of tetrakis(triphenylphosphine)potassium in a mixture of 2 M aqueous Na2CO3 solution, 1,2-dichloroethane, and toluene under refluxing at 90° for 6 h to give 44.6% [2,2'-(1-naphthyl)anthracen-5,9-diyl, 1'-isobutyl-4'-yl]triphenylsilane (III). An organic electroluminescent device with a luminescent layer of III showed luminescent efficiency of 11.6 cd/A and service life of 9250 h at 1000 cd/m<sup>2</sup>.

HR Structure

CAS Registry Number  
956776-10-3 CAS103

Chemical or Trade Name

Pyrene, 1,3,6,8-tetrakis[4-(tri(phenylsilyl)phenyl)]- (CA INDEX NAME)



LB ANSWER 5 OF 14 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number  
2007099620 CAPLUS Pub/Int

Document Number  
147332701

Title

Organic electroluminescent device of multi-photon emission mode having uniform luminance in a large-area formed by use of a charge generation layer

Author/Inventor  
Ito, Yuzhiro

Patent Assignee/Corporate Source  
Fujifilm Corporation, Japan

Source

U.S. Pat. Appl. Publ. 21 pp CODEN: USXXCO

Document Type

Patent

Language

English

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 20070208411	A1	20070906	US 2007-713027	20070902
JP 2007242793	A	20070100	JP 2006-60246	20060906

Abstract

Organic electroluminescent devices of multi-photon emission mode are described which comprise plural light emission layers and at least one charge generation layer between a pair of electrodes, arranged in a film thickness direction, where the charge generation layer includes at least one p-doped layer and at least one n-doped layer, and further includes an alkali metal layer and a layer containing a hole transport material between the p-doped layer and the n-doped layer. An organic electroluminescent device of multi-photon emission mode exhibiting little unevenness in luminance even in a large-area normal electroluminescence device is provided.

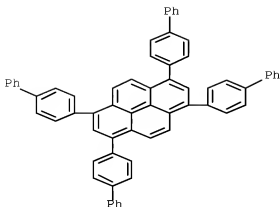
HR Structure

CAS Registry Number  
790273-01-3 CAS103

Chemical or Trade Name

Pyrene, 1,3,6,8-tetrakis[1,1'-(biphenyl)]-4-yl]- (CA INDEX NAME)





LB ANSWER 6 OF 14: CAPLUS COPYRIGHT 2008 ACS on 6/11/2008

Accession Number: 2007-23414 CAPLUS Full Text

Document Number: 146121689

Title: Process for preparation of pyrene derivatives for use in organic electroluminescence devices

Author/Inventor: Ito, Mitsunori; Kubota, Mineyuki

Patent Assignee/Corporate Source: Idemitsu Kosan Co., Ltd., Japan

Source: PCT Int. Appl., 62pp. CODEN: PPOXD2

Document Type: Patent

Language: Japanese

Patent Information:

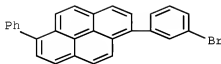
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WO 2007004364	A1	2007/01/11	WO 2006-JP310194	2006/03/23
JP 2007015961	A	2007/01/23	JP 2005-197765	2005/07/06
EP 1909754	A1	2008/04/02	EP 2006-746725	2006/03/23
US 20080124571	A1	2008/05/29	US 2007-928613	2007/10/29
US 7585574	B2	2008/09/08		
CN 101213161	A	2008/07/02	CN 2006-80024361	2006/01/03
KR 2008027332	A	2008/03/26	KR 2006-700292	2006/01/04
IN 2006CN00622	A	2008/11/28	IN 2006-CN622	2006/02/06

**Abstract**  
This invention pertains to a method for producing pyrene derivs. via coupling reaction, for the use in organic electroluminescence devices comprising a neg. electrode and a pos. electrode and interposed there between, one or two or more organic thin film layers including at least a light emitting layer, wherein at least one of the organic thin film layers contains the pyrene derivative alone or as a component of mixture. For example, the compound I was prepared in a three-step synthesis starting from pyrene-1-boric acid and 3-bromo-1-iodobenzene in good yield. Thus, there is provided an organic electroluminescence device of high luminous efficiency capable of prolonged blue light emission.

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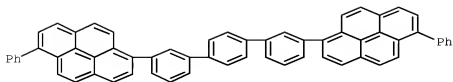
CAS Registry Number: 918651-02-8 CAPLUS

Chemical or Trade Name: Pyrene, 2-(3-bromophenyl)-6-phenyl- (CA INDEX NAME)



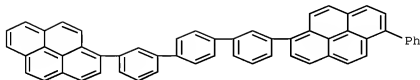
CAS Registry Number: 918651-07-8 CAPLUS

Chemical or Trade Name: Pyrene, 1,1'-[2,2'-(4,4'-oxydiphenyl)-3,3'-diylbis[6-phenyl]- (CA INDEX NAME)



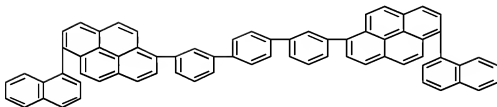
CAS Registry Number  
91854-65-9 CAS109

Chemical or Trade Name  
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CAS Registry Number  
91854-69-0 CAS109

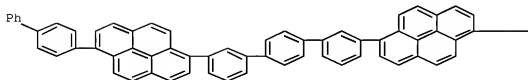
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Pyrene, 3,1'-[2,1':4',3''-terphenyl]-3,3''-diylbis[6-(1-naphthalenyl)]- (CA INDEX NAME)



CAS Registry Number  
91854-70-3 CAS109

Chemical or Trade Name  
Pyrene, 2,1'-[2,1':4',3''-terphenyl]-3,3''-diylbis[6-(1,1'-biphenyl)]-6-yl- (CA INDEX NAME)

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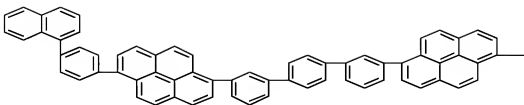
PAGE 1-B



CAS Registry Number  
91854-11-0 CAS109

Chemical or Trade Name  
Pyrene, 3,1'-[2,1':4',3''-terphenyl]-3,3''-diylbis[6-(4-(1-naphthalenyl)phenyl)]- (CA INDEX NAME)

PAGE 1-A



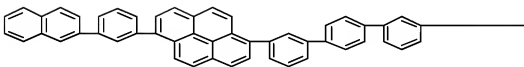
PAGE 1-B



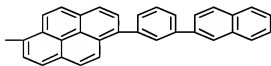
CAS Registry Number  
91854-72-5 CASI/OS

Chemical or Trade Name  
Pyrene, 3,3'-(1,3,4',1''-terphenyl)-3,3''-diylbis[6-(3-(2-naphthalenyl)phenyl)]- (CA INDEX NAME)

PAGE 1-A

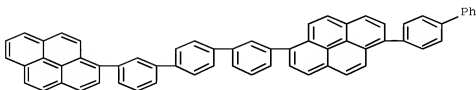


PAGE 1-B



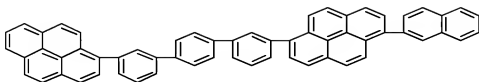
CAS Registry Number  
91854-73-6 CASI/OS

Chemical or Trade Name  
Pyrene, 2-(1,3'-biphenyl)-4-yl-6-([3''-(1-pyrenyl)-1,3'-biphenyl]-3-yl)- (CA INDEX NAME)



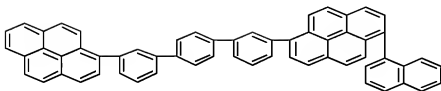
CAS Registry Number  
91854-74-7 CASI/OS

Chemical or Trade Name  
 Pyrene, 1-[(2-naphthalenyl)phenyl]-6-[3''-(1-pyrenyl)[1,1'4',1''-terphenyl]-3-yl]-  
 (CA INDEX NAME)



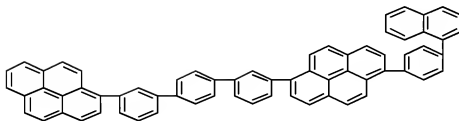
CAS Registry Number  
 918654-76-9 CAS109

Chemical or Trade Name  
 Pyrene, 1-[(2-naphthalenyl)phenyl]-6-[3''-(1-pyrenyl)[1,1'4',1''-terphenyl]-3-yl]-  
 (CA INDEX NAME)



CAS Registry Number  
 918654-76-9 CAS109

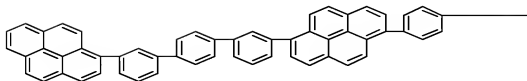
Chemical or Trade Name  
 Pyrene, 1-[(4-{[2-naphthalenyl]phenyl}-6-[3''-(1-pyrenyl)[1,1'4',1''-terphenyl]-3-yl]-  
 (CA INDEX NAME)



CAS Registry Number  
 918654-77-0 CAS109

Chemical or Trade Name  
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 (CA INDEX NAME)

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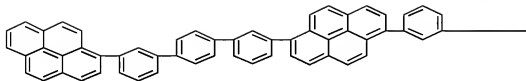
PAGE 1-B



CAS Registry Number  
918654-70-1 CHAPOS

Chemical or Trade Name  
Pyrene, 1-([6-(2-naphthalenyl)phenyl]-6-[3'-(1-pyrenyl)[1,3'4',3''-terphenyl]-3-yl])- (CA INDEX NAME)

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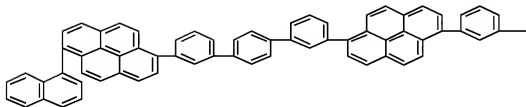
PAGE 1-B



CAS Registry Number  
918654-70-2 CAPLUS

Chemical or Trade Name  
Pyrene, 1-([6-(2-naphthalenyl)phenyl]-6-[3'-(6-[3-(2-naphthalenyl)phenyl]-1-pyrenyl)-2,2'-di(4,1''-terphenyl)-3-yl])- (CA INDEX NAME)

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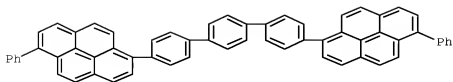


PAGE 1-B



CAS Registry Number  
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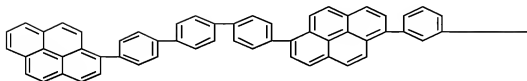
Chemical or Trade Name  
Pyrene, 3,1'-(3,3',4',3''-terphenyl)-6,6''-diylbis(6-phenyl)- (CA INDEX NAME)



CAS Registry Number  
918654-01-6 CAFL08

Chemical or Trade Name  
Pyrene, 2-[2-(2-naphthalenyl)phenyl]-6-[4'-(1-pyrenyl)[1,3'4',3'']-terphenyl]-4-yl- (CA 13056. NAME)

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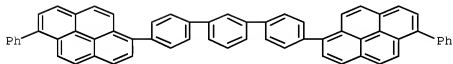


PAGE 1-B



CAS Registry Number  
918654-03-0 CAFL08

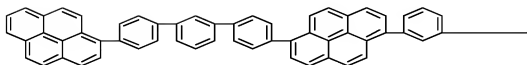
Chemical or Trade Name  
Pyrene, 2-[2-(2-(2'3',3'')-terphenyl)-4,4''-diylbis[6-phenyl]- (CA 13056. NAME)



CAS Registry Number  
918654-04-0 CAFL08

Chemical or Trade Name  
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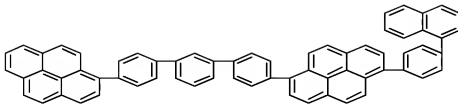


CAS Registry Number

918654-85-0 CAS#09

Chemical or Trade Name

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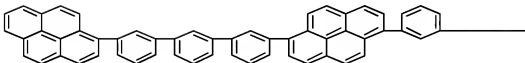
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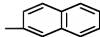
Chemical or Trade Name

Pyrene, 1-[3-(2-naphthalenyl)phenyl]-6-[3''-(1-pyrenyl)[1,1'13',1''-terphenyl]-3-yl]- (CA INDEX NAME)

PAGE 1-A



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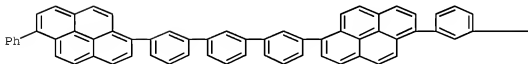
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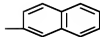
Chemical or Trade Name

Pyrene, 1-[3-(2-naphthalenyl)phenyl]-6-[3''-(6-phenyl-1-pyrenyl)[1,1'13',1''-terphenyl]-3-yl]- (CA INDEX NAME)

PAGE 1-A



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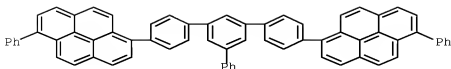


CAS Registry Number

918654-90-9 CAS#09

Chemical or Trade Name

Pyrene, 1,1'-(13'-phenyl[1,1'13',1''-terphenyl]-6,4''-diyl)bis[6-phenyl- (CA INDEX NAME)



CG CITING REF COUNT: 3 THERE ARE 3 CAPLUS RECORDS THAT CITE THIS RECORD (3 CITINGS)

LB ANSWER 7 OF 14 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number  
2008-510508 CAPLUS [Pat364](#)

Document Number  
145 17891

Title  
Pyrene compound and, utilizing the same, light emitting transistor device and electroluminescence device

Author/Inventor  
Oyamada, Takahito, Uchiuzou, Hiroaki, Adachi, Chihaya, Akiyama, Seiji, Takahashi, Takayoshi

Patent Assignee Corporate Source  
Kyoto University, Japan; Nippon Telegraph and Telephone Corporation, Pioneer Corporation, Hitachi, Ltd., Mitsubishi Chemical Corporation, Rohm Co., Ltd.

Source  
PCT Int. Appl., 68 pp. CODEN: POKXD2

Document Type

Patent

Language

Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2006057325	A1	20060601	WO 2005-JP21647	20051125
JP 2006176494	A	20060706	JP 2005-262596	20060928
EP 1818322	A1	20070815	EP 2005-609745	20051125
CN 101072743	A	20071114	CN 2005-80040399	20051125
KR 2007093401	A	20070918	KR 2007-714336	20070622
US 20080012479	A1	20080117	US 2007-791613	20070606

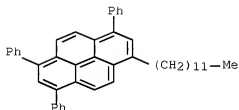
Abstract

An organic phosphor of the following formula (I) (R1 = heteroaryl, aryl, C1-20-alkyl, cycloalkyl, alkenyl, etc.; R2 = heteroalkyl, aryl, C1-20-alkyl, cycloalkyl, alkenyl, etc.; R1 ≠ R2) that can be used in both a light emitting transistor device and an organic EL device. There is provided a light emitting transistor device or an organic EL device, wherein luminescence of such a specified asym. pyrene compound is utilized in a light emitting layer of transistor device or a luminescent layer, hole transporting layer or electron transporting layer of organic electroluminescence device.

Hit Structure

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887921-92-2 CAPLUS

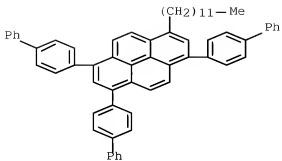
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CAS Registry Number  
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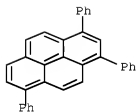
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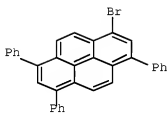
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Chemical or Trade Name  
Pyrene, 1,3,6-triphenyl- (CA INDEX NAME)



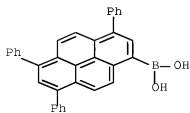
CAS Registry Number  
887928-07-2 CAS1/05

Chemical or Trade Name  
Pyrene, 1-bromo-3,6,8-triphenyl- (CA INDEX NAME)



CAS Registry Number  
887928-10-5 CAS1/05

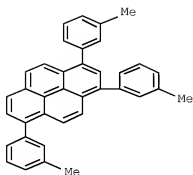
Chemical or Trade Name  
Beonic acid, 2-[3,6,8-triphenyl-1-pyrenyl]- (CA INDEX NAME)



CAS Registry Number  
887928-26-5 CAS1/05

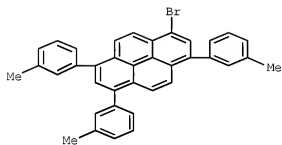
Chemical or Trade Name

Pyrene, 1,3,6-tris(3-methylphenyl)- (CA INDEX NAME)



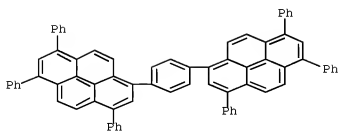
CAS Registry Number  
887928-30-1 CAS#

Chemical or Trade Name  
Pyrene, 1-bromo-3,6,8-tris(3-methylphenyl)- (CA INDEX NAME)



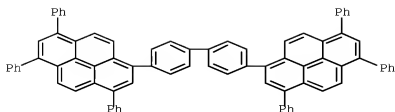
CAS Registry Number  
887928-09-4 CAS#

Chemical or Trade Name  
Pyrene, 1,3,6-trisphenyl-5-[4-(3,6,8-triphenyl-1-pyrenyl)phenyl]- (CA INDEX NAME)



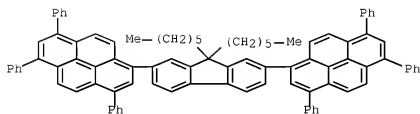
CAS Registry Number  
887928-22-9 CAS#

Chemical or Trade Name  
Pyrene, 1,1'-(3,3'-bisphenyl)-4,4'-diylbis[3,6,8-triphenyl]- (CCL INDEX NAME)



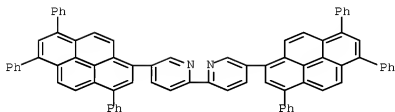
CAS Registry Number  
887928-36-3 CAS105

Chemical or Trade Name  
Pyrene, 1,3'-[3,3'-diheptyl-5,5'-bis(3,6,8-triphenyl)-] (CA INDEX NAME)



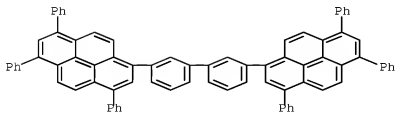
CAS Registry Number  
887928-21-0 CAS105

Chemical or Trade Name  
2,2'-Bipyridine, 5,5'-bis(3,6,8-triphenyl-1-pyrenyl)- (CA INDEX NAME)



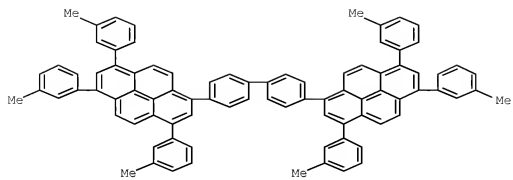
CAS Registry Number  
887928-20-2 CAS105

Chemical or Trade Name  
Pyrene, 1,3'-[3,3'-biphenyl]-4,4'-diylbis(3,6,8-triphenyl)- (SCI) (CA INDEX NAME)



CAS Registry Number  
887928-32-3 CAS105

Chemical or Trade Name  
Pyrene, 1,3'-[3,3'-biphenyl]-4,4'-diylbis(3,6,8-tris(3-methylphenyl)-) (SCI) (CA INDEX NAME)



05 .CITING REF COUNT: 2 THERE ARE 2 CAPLUS RECORDS THAT CITE THIS RECORD  
(3 CITINGS)

18 ANSWER 8 OF 14 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number  
2006253603 CAPLUS [Full-text](#)

Document Number  
144441798

Title  
Unusual photoluminescence characteristics of tetraphenylpyrene (TPPy) in various aggregated morphologies

Author/Inventor  
Oyamada, Takahito, Akiyama, Saki, Yuhno, Masayuki, Otagawa, Maki, Shiro, Motoo, Sotomura, Hiroyuki, Adachi, Chihaya

Patent Assignee/Corporate Source  
Department of Physics Materials Science, Chitose Institute of Science and Technology (CIST), Chitose, Hokkaido, 066-8655, Japan

Source  
Chemical Physics Letters (2006), 421(1-3), 295-299 CODEN: CHPLBC, ISSN: 0009-2614

Document Type  
Journal

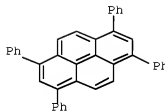
Language  
English

**Abstract**  
1,3,6,8-Tetraphenylpyrene (TPPy) demonstrates unusual photoluminescence (PL) characteristics in the solid-state morphologies. The authors studied the PL characteristics of TPPy in various morphologies including powder, deposited film, and solns. The TPPy powder (A), which was prepared through column chromatog., recryst., and transublimation, showed blue fluorescence with a peak of maximum wavelength of  $\lambda_{\text{max}} = 451 \text{ nm}$ . The TPPy powder (B), which was obtained by thermal annealing at TPPy powder (A) in a quartz tube in  $\text{N}_2$ , showed green fluorescence with  $\lambda_{\text{max}} = 518 \text{ nm}$ . Also, the TPPy powder (B) was reversibly converted into TPPy powder (A) by recryst. TPPy dimers form locally in the TPPy monomer aggregates during thermal annealing and redissolve into the monomer states during recryst.

HR Structure

CAS Registry Number  
13639-82-9 CASREG

Chemical or Trade Name  
Pyrone, 1,3,6,8-tetraphenyl- (CA INDEX NAME)



06 CITING REF COUNT: 7 THERE ARE 7 CAPLUS RECORDS THAT CITE THIS RECORD  
(7 CITINGS)

18 ANSWER 9 OF 14 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number  
2006252288 CAPLUS [Full-text](#)

Document Number  
144422134

Title  
Estimation of carrier recombination and electroluminescence emission regions in organic light-emitting field-effect transistors using local doping method

Author/Inventor  
Oyamada, Takahito, Sasabe, Hiroyuki, Oki, Yoshiaki, Shimoy, Noriyuki, Adachi, Chihaya

Patent Assignee/Corporate Source  
Department of Physics Materials Science, Chitose Institute of Science and Technology, 730-65 Bldg, Chitose, Hokkaido, 066-8655, Japan

Source  
Applied Physics Letters (2006), 88(9), 093514-1-093514-3 CODEN: APPLAB, ISSN: 0003-6951

Document Type  
Journal

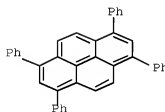
Language  
English

**Abstract**  
To elucidate the electroluminescence (EL) mechanism of organic light-emitting field-effect transistors (OLEFETs), the authors determined the carrier recombination and EL emission regions using the local doping method. The local doping method is a useful technique for estimating the width of these regions in OLEFETs. The authors inserted an ultrathin rubrene doped 1,3,6,8-tetraphenylpyrene (TPPy) layer ( $d = 10 \text{ nm}$ ) as a sensing layer in a TPPy layer (80 nm) and measured the luminescence-current-voltage characteristics and the EL spectra depending on the position of the sensing layer. The EL emission region expanded almost to the height ( $h \approx 40 \text{ nm}$ ) of the source-drain electrodes and was independent of the gate bias voltage ( $V_g$ ). Further, the EL external quantum efficiency ( $\eta_{\text{ext}}$ ) significantly decreased as  $V_g$  increased, suggesting that excitons generated in a TPPy host layer by carrier recombination are quenched by the application of  $V_g$ .

HR Structure

CAS Registry Number  
13639-82-9 CASREG

Chemical or Trade Name  
Pyrone, 1,3,6,8-tetraphenyl- (CA INDEX NAME)



18 ANSWER 10 OF 14 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number  
2005114923 CAPLUS [Full-text](#)

Document Number  
14429415

**Title** Lateral organic light-emitting diode with field-effect transistor characteristics  
**Author/Inventor** Oyamada, Takahito; Uchizawa, Hiroyuki; Akiyama, Seiji; Oka, Yoshitaki; Shimoyama, Noriyuki; Matsuzaki, Kazumi; Sasabe, Hiroyuki; Adachi, Chihaya  
**Patent Assignee/Corporate Source** Department of Photonic Materials Science, Chitose Institute of Science and Technology (CIST), 759-65 Bika, Chitose, Hokkaido, 066-8655, Japan

**Source** Journal of Applied Physics (2005), 98(7), 074506/1-074506/7 CODEN JAPPAU, ISSN: 0021-8979

**Document Type** Journal

**Language** English

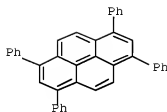
**Abstract**

Bright electroluminescence (EL) was observed from 1<sup>st</sup>-rubrene doped tetraphenylpyrene (TPPy) as an active layer in a lateral organic LED structure that allowed FET operation. This device configuration provides an organic LED structure where the anode (source) and cathode (drain) electrodes are laterally arranged, providing one a chance to control the EL intensity by changing the gate bias characteristics. Rubrene doping into the TPPy host and adjusting the source-drain channel length significantly improved the EL characteristics. A maximum EL quantum efficiency (yield of approx 0.9%) was observed with a Cr:Au source (S)-drain (D) electrode and a slightly higher yield of approx 0.8% with S-D electrodes of Mg:Au/Au, Al:Au, Co:Ti:Au/Au, and Mg:Al:Al:Al multilayers, among for simultaneous hole and electron injection.

**HR Structure**

CAS Registry Number  
 13638-82-9 CAPLUS

Chemical or Trade Name  
 Pyrene, 1,3,6,8-tetraphenyl- ICA INDEX NAME



**LA ANSWER 11 OF 14 CAPLUS COPYRIGHT 2009 ACS on STN**

**Accession Number** 2005 962979 CAPLUS [Fulltext](#)

**Document Number** 143256816

**Title** White organic electroluminescence device

**Author/Inventor** Takahira, Hiroshi; Fukusha, Kenichi; Kubota, Mineyuki; Funahashi, Masakazu  
**Patent Assignee/Corporate Source** Idemitsu Kosan Co., Ltd., Japan

**Source** PCT Int. Appl., 63 pp. CODEN P00XD2

**Document Type** Patent

**Language** Japanese

**Patent Information**

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 200501587	A1	20050901	WO 2005-JP2442	20050217
EP 1718124	A1	20061102	EP 2005-719244	20050217
CN 1879494	A	20061213	CN 2005-8001270	20050217
US 20070069639	A1	20070322	US 2006-573661	20060328
KR 2006119372	A	20061108	KR 2006-08168	20060427

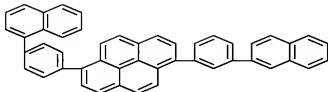
**Abstract**

The invention refers to a white organic electroluminescence device comprising a neg. electrode and a pos. electrode and, interposed there between, one or more organic thin film layers including at least a light emitting layer, wherein the light emitting layer is constituted of a laminate of blue color light emitting layer and yellow-to-red color light emitting layer and contains an asym. condensed-ring-containing compound. This white color organic electroluminescence device realizes reduced chromaticity changes and excels in luminous efficiency and thermal stability, ensuring strongly prolonged service life.

**HR Structure**

CAS Registry Number  
 863292-28-9 CAPLUS

Chemical or Trade Name  
 Pyrene, 1-[3-(12-naphthalenyl)phenyl]-6-[4-(13-naphthalenyl)phenyl]- ICA INDEX NAME



Accession Number

2669 054080 CAPLUS [Full-text](#)

Document Number

143 37323

Title

Tetra-substituted pyrenes: new class of blue emitter for organic light-emitting diodes

Author(s)

Satojima, Wataru; Sato, Hiroyuki; Kinoshita, Masaru; Takahashi, Toshiro; Matsuzaki, Akuma; Kodama, Jun; Sawatake, Naoki; Inoue, Hiroshi

Patent Assignee/Corporate Source

Functional Organic Materials Laboratory, Fujitsu Laboratories Limited, Morinosato Wakamya, Atsugi, 243-0197, Japan

Source

Digest of Technical Papers - Society for Information Display International Symposium (2003), 34, 1294-1297 CODEN: DTIPS0G

Document Type

Journal, (computer optical disk)

Language

English

Abstract

We have developed a new class of highly-fluorescent blue emitter for organic light-emitting diodes (OLEDs) consisting of tetra-substituted pyrenes. From the anal. of the excited state diagrams of pyrene and its derivs. by MO calcs., we found that the new tetra-substituted pyrenes are highly fluorescent. OLEDs fabricated using the synthesized tetra-substituted pyrenes as emitters showed high efficiency and good color purity.

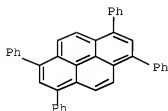
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CAS Registry Number

13450-02-9 CAPLUS

Chemical or Trade Name

Pyrene, 1,1',6,6'-tetrakisphenyl- (CA INDEX NAME)

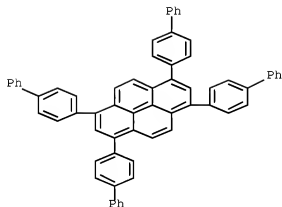


CAS Registry Number

790270-97-3 CAPLUS

Chemical or Trade Name

Pyrene, 1,1',3,6,6'-tetrakis[2,2',6'-triphenyl]-4-yl)- (CA INDEX NAME)

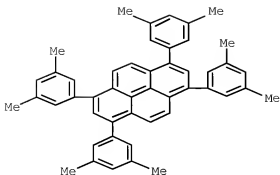


CAS Registry Number

863639-30-9 CAPLUS

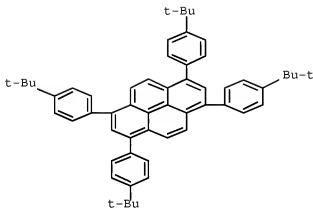
Chemical or Trade Name

Pyrene, 1,1',3,6,6'-tetrakis[2,6-dimethylphenyl]- (CA INDEX NAME)



CAS Registry Number  
863639-31-0 CAPLUS

Chemical or Trade Name  
Pyrene, 1,3,6,8-tetrakis[4-(1,1-dimethylethyl)phenyl]- (CA INDEX NAME)



05 CITING REF COUNT: 3 THERE ARE 3 CAPLUS RECORDS THAT CITE THIS RECORD  
(3 CITINGS)

LB ANSWER 13 OF 14 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number  
2005 336613 CAPLUS Fulltext  
Document Number  
144 39239

Title  
High-performance blue OLEDs based on a sterically hindered pyrene host material

Author/Inventor  
Yeh, Chia-Chun, Lue, Meng-Teng, Chen, Hsiao-Hung, Chen, Chen H.

Patent Assignee/Corporate Source  
Department of Applied Chemistry, National Chiao Tung University, Hsinchu, Taiwan, 300, Taiwan

Source  
Digest of Technical Papers - Society for Information Display International Symposium (2004), 35, 788-791 CODEN DTPDSG

Document Type  
Journal, (computer optical disk)

Language  
English

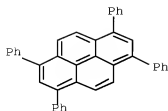
Abstract  
The authors developed a blue organic light-emitting device (OLED) emitter based on a sterically hindered fluorescent host material of tetra-*o*-tolylpyrene (TOTP) which effectively suppresses the excimer emission of its electroluminescence. Doped with DSA-1% of matching LiMO-HOMO, TOTP was used to produce a blue device with luminance efficiency of 0.64 cd/A at 20 mA/cm<sup>2</sup> and 7.1 V with a CIE<sub>x,y</sub> color coordinate of (0.15, 0.28). The properties of selected 1,3,6,8-tetra-*o*-tolylpyrenes were measured and compared with conventional anthracene based materials.

Hit Structure

CAS Registry Number  
11838-82-9 CAPLUS

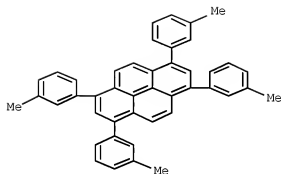
Chemical or Trade Name  
Pyrene, 1,3,6,8-tetrakis[4-(1,1-dimethylethyl)phenyl]- (CA INDEX NAME)





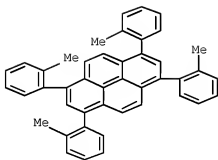
CAS Registry Number  
870131-11-4 CAPLUS

Chemical or Trade Name  
Pyrene, 1,3,6,8-tetrakis(3-methylphenyl)- (CA INDEX NAME)



CAS Registry Number  
870133-12-5 CAPLUS

Chemical or Trade Name  
Pyrene, 1,3,6,8-tetrakis(2-methylphenyl)- (CA INDEX NAME)



CS CITING REF COUNT: 10 THERE ARE 10 CAPLUS RECORDS THAT CITE THIS RECORD (10 CITINGS)

LB ANSWER 14 OF 14 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number 2001 299286 CAPLUS Fulltext

Document Number 134302822

Title Organic electroluminescence devices

Author/Inventor Toyama, Wataru; Hayano, Tomoaki; Sato, Hiroyuki; Matsuzawa, Akira

Patent Assignee/Corporate Source Fujitsu Ltd., Japan

Source Jpn. Kokai Tokkyo Koho, 6 pp. CODEN JX00AF

Document Type Patent

Language Japanese

Patent Information

PATENT NO	KIND	DATE	APPLICATION NO	DATE
JP 200110882	A	20010427	JP 1999-299876	19991021
JP 3903265	B2	20070418		

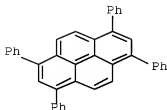
#### Abstract

A blue-emitting device comprises a phosphor layer containing an alkyl derivative, a cycloalkyl derivative or an aryl derivative of 1,3,6,8-tetraphenylperene.

#### Hit Structure

CAS Registry Number  
136339-62-9 CAS#09

Chemical or Trade Name  
Fylene, 1,3,6,8-tetraphenyl- (CA INDEX NAME)



05.CITING REF COUNT: 5 THERE ARE 5 CAPLUS RECORDS THAT CITE THIS RECORD  
(5 CITINGS)

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1311119 LIGHT  
123170 LIGHTS  
1321384 LIGHT  
1/3 69 1/7 AND 1/387

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YOU HAVE REQUESTED DATA FROM 69 ANSWERS - CONTINUE? Y/(N)y

LS ANSWER 1 OF 68 CAPLUS COPYRIGHT 2009 ACS on STN  
Accession Number:  
20091086627 CAPLUS Fulltext

#### Title

Preparation of anthracene compounds containing cyclic amine moiety as organic electroluminescent materials

#### Author/Inventor

Je, Jong Tae, Kim, Seang Hun, Lee, Se Jin, Yoo, Ge Un  
Patent Assignee/Corporate Source

SRC Ltd. S. Korea

#### Source

Repub. Korean Kongdae Tasha Kongbo, 33pp. CODEN KROOIA7

#### Document Type

Patent

#### Language

Korean

#### Patent Information

PATENT NO	KIND	DATE	APPLICATION NO.	DATE
KR 2009098997	A	20090902	KR 2008-17146	20080227

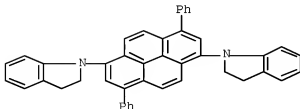
#### Abstract

Title compds 1 [A = (un)substituted aryl or (un)substituted heteroaryl, n = 1-4; R1 = (un)substituted alkyl, (un)substituted alkenyl or (un)substituted alkynyl; R2 = (un)substituted aryl or (un)substituted heteroaryl; R3, R4 = (un)substituted alkyl, (un)substituted cycloalkyl, (un)substituted aryl, etc.] were prepared. For example, reaction of bromobenzene with n-butylmagnesium followed by n-octyl treatment with 2,6-dibromoanthracene, exposure to H-NaOH/NaOAc and Pd(PPh3)4-catalyzed reaction with 1-methyl-4-methylimidazole compound II. An electroluminescent device (ITO glass coated with Cu/Pc (200 Å), NPD (400 Å), 9,10-bis(2-methylphenyl)anthracene (200 Å) = compound (Ph) (200 Å), Alq3 (350 Å), LiF (5 Å), and Al (1000 Å)) showed 2357 cd/m2 at 0.4 mA and CIE coordinate of (0.31, 0.65).

#### Hit Structure

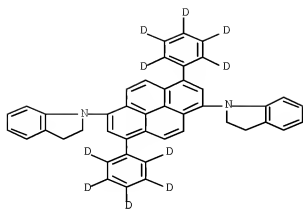
CAS Registry Number  
1187762-42-4 CAS#08

Chemical or Trade Name  
INDEX NAME NOT YET ASSIGNED



CAS Registry Number  
1187762-42-4 CAS#08

Chemical or Trade Name  
INDEX NAME NOT YET ASSIGNED



19 ANSWER 2 OF 66 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number

2009 K00893 CAPLUS E66-174

Document Number

151 159940

Title

Organic electroluminescent device allowing adjustment of chromaticity

Author/Inventor

Kawachi, Masaru

Patent Assignee/Corporate Source

Fuji Photo Film Co., Ltd., Japan

Source

U.S. Pat. Appl. Publ. 13pp CODEN USXIXO

Document Type

Patent

Language

English

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 20080189971	A1	20080807	US 2006-079061	20061027
TW 267822	B	20061201	TW 2004-89112026	20040429
WO 2005106835	A1	20051110	WO 2004-JP6354	20040430
CN 1977301	A	20070606	CN 2004-00042922	20040430
KR 2007020051	A	20070216	KR 2006-724970	20061128
KR 836342	B1	20080610		

Abstract

Organic electroluminescent devices comprising an organic electroluminescent element comprising electrodes with an organic electroluminescent layer emitting white light at a chromaticity corresponding to a drive c.d. provided between the electrodes; and a drive unit driving the organic electroluminescent element by application of current or voltage and controlling the drive current and the period the current or voltage is applied per unit of time according to a chromaticity adjustment input, wherein in response to a first chromaticity adjustment input the drive unit controls, resp. the drive current or voltage to be a first current or voltage and the application period to be a first period, and in response to a second chromaticity adjustment input the drive unit controls, resp. the drive current or voltage to be a second current or voltage larger than the first current or voltage and the application period to be a second period shorter than the first period. Emission chromaticity can be adjusted while the brightness is kept constant. A liquid crystal display device employing an organic electroluminescent device as a backlight unit are also described.

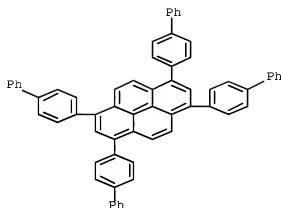
HR Structure

CAS Registry Number

790273-07-3 CAPLUS

Chemical or Trade Name

Pyrene, 1,3,6,8-tetrakis[2,2'-biphenyl]-4-yl- (CA INDEX NAME)



08 CITING REF COUNT: 3 THERE ARE 3 CAPLUS RECORDS THAT CITE THIS RECORD (5 CITINGS)

19 ANSWER 3 OF 66 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number

2009 716644 CAPLUS E66-174

Document Number

151 111404

Title

Organic light-emitting compound and organic light-emitting device using this compound

Author/Inventor

Lee, Su Yong; Shen, Hye Nam; Cho, Yeong Jun; Kwon, Hyosik Ju; Kim, Bong Ok; Kim, Seung Min; Yoon, Seung Su

Patent Assignee/Corporate Source

Gracell Co., Ltd., S. Korea

Source

Repub. Korea, 101pp CODEN KRXXFC

Document Type

Patent

Language

Korean

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
KR 901887	B1	20090609	KR 2008-106023	20081029
EP 2100941	A2	20090916	EP 2008-173052	20081230
CN 101531565	A	20090916	CN 2008-10107500	20081231

US 2006020852	A1	20060917	US 2006-317966	20061231
KR 2006098757	A	20060917	KR 2006-23442	20060319

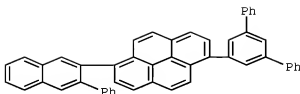
#### Abstract

The title compound is expressed by chemical formula 1, wherein (1) L1 denotes (C6-C60)arylene or (C3-C60)heteroarylene comprising more than one selected from N, O, and S, (2) L2 and L3 independently denote chemical bond or (C1-C60)alkylene, (C1-C60)alkenylene, (C6-C60)arylene, (C3-C60)heteroarylene, or (C3-C60)heteroarylene comprising more than one selected from N, O, and S, (3) A1 denotes (C6-C60)aryl, (C3-C60)heteroaryl comprising more than one selected from N, O, and S, five-membered or six-membered heterocycloalkyl comprising more than one selected from N, O, and S, (C3-C60)cycloalkyl, adamantyl, and (C7-C60) bicyclopentyl, (4) R1-R11 independently denote H, deuterium, halogen, (C1-C60)alkyl, (C3-C60)alkenyl, (C3-C60)heteroaryl comprising more than one selected from N, O, and S, methylene, thiomethylene, five-membered or six-membered heterocycloalkyl comprising more than one selected from N, O, and S, bicyclic, etc.. More structures and details are described in the text. The compound has excellent light-emitting efficiency, pure color, and long service life for organic light-emitting devices.

#### Hit Structure

CAS Registry Number  
1146381-43-6 CAPLUS

Chemical or Trade Name  
Pyrene, 1-(2-phenyl-2-naphthalenyl)-6-[1,1',3',3'',1'',terphenyl]-5''-yl- (CA  
INDEX NAME)



#### L9 ANSWER 4 OF 68 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number  
2009 573003 CAPLUS Fulltext

Document Number  
150 538448

#### Title

Preparation of aromatic amine derivatives as doping materials for organic electroluminescent devices

#### Author/Inventor

Funabashi, Masakazu, Kubota, Mineyuki

Patent Assignee/Corporate Source  
Idemitsu Kosan Co., Ltd., Japan

#### Source

Jpn. Tokkyo Koho, 33pp. CODEN JTXOXX

#### Document Type

Patent

#### Language

Japanese

#### Patent Information

PATENT NO	KIND	DATE	APPLICATION NO	DATE
JP 4283700	B2	20060913	JP 2005-73474	20060919
JP 2006296979	A	20060928		
WO 2006096060	A1	20060921	WO 2006-JP306516	20060917
EP 1 860066	A1	20071126	EP 2006-711796	20060917
US 20060210830	A1	20060921	US 2006-336655	20060913
KR 2007110962	A	20071116	KR 2007-720953	20070913
IN 2007CN46053	A	20071123	IN 2007-CN4603	20070917
CN 1 01142169	A	20060912	CN 2006-6006834	20070917

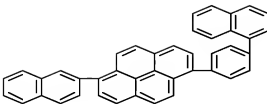
#### Abstract

The title compounds I [T1 = (A1)a, T2 = (A2)b, T3 = (A3)c, T4 = (A4)d, A1-A4 = H, Me, Et, etc.; a, b, c, d = 0-3, A5-A12 = Me, Et, Ph, etc.] are prepared. Thus, the title compound II was prepared from the coupling reaction of 6,12-dibromochrysene with bis(3,4-dimethylphenyl)amine. An organic electroluminescent device containing II showed blue light and luminous efficiency 7.1 cd/A under voltage of 6.5 V.

#### Hit Structure

CAS Registry Number  
670714-21-3 CAPLUS

Chemical or Trade Name  
Pyrene, 1-(2-naphthalenyl)-6-[4-(3-naphthalenyl)phenyl]- (CA INDEX NAME)



ON-CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD (2 CITINGS)

#### L9 ANSWER 5 OF 68 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number  
2009 160692 CAPLUS Fulltext

Document Number  
150-435723

Title  
Ambipolar tetraphenylpyrene (TPPy) single-crystal field-effect transistor with symmetric and asymmetric electrodes

Author/Inventor  
Birn, G. Z., Takahashi, T., Takenobu, T., Yahiro, M., Adachi, C., Iwasa, Y.

Patent Assignee/Corporate Source  
Institute for Material Research, Tohoku University, 2-1-1 Katahira, Aoba-ku, Sendai, 980-8577, Japan

Source  
Advances in Materials Research (Berlin, Germany) (2008), 10(Frontiers in Materials Research), 103-110 CODEN: ADMRF3, ISSN: 1435-1889

Document Type  
Journal

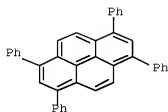
Language  
English

Abstract  
An ambipolar field-effect transistor (FET) based on a 1,3,6,8-tetraphenylpyrene (TPPy) single-crystal, a high photoluminescent material, has been successfully fabricated using sym- and asym- electrodes. Several kinds of metal electrodes have been employed to investigate the charge injection characteristics in this single-crystal FET. Hole and electron mobilities of 0.54 and  $7.7 \times 10^{-2}$  cm<sup>2</sup> V<sup>-1</sup> s<sup>-1</sup> were achieved by using Au and Co electrodes, resp. The ambipolar characteristic of this device gives a prospect for further development in light-emitting FET operation.

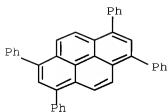
Hit Structure

CAS Registry Number  
13630-02-9 CNFUGJ

Chemical or Trade Name  
Pyrene, 1,3,6,8-tetraphenyl- (CA INDEX NAME)

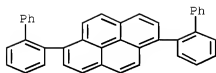






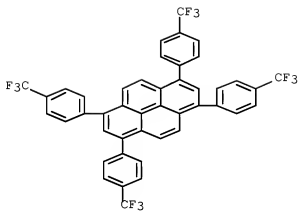
CAS Registry Number  
843346-92-3 CAS#

Chemical or Trade Name  
Pyrene, 1,6-bis([1,1'-biphenyl]-2-yl)- (CA INDEX NAME)



CAS Registry Number  
881851-23-2 CAS#

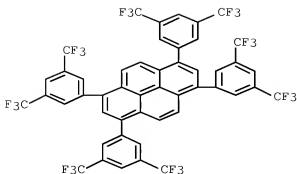
Chemical or Trade Name  
Pyrene, 1,3,6,8-tetrakis[4-(trifluoromethyl)phenyl]- (CA INDEX NAME)



CAS Registry Number  
887909-13-1 CAS#

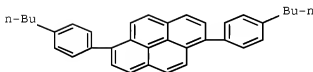
Chemical or Trade Name  
Pyrene, 2,3,6,8-tetrakis[3,5-bis(trifluoromethyl)phenyl]- (CA INDEX NAME)





CAS Registry Number  
950779-03-0 CAPLUS

Chemical or Trade Name  
Pyrene, 1,6-bis(4-butylphenyl)- (CA INDEX NAME)



19 ANSWER 8 OF 68 CAPLUS COPYRIGHT 2006 ACS on STN

Accession Number  
2006 1426193 CAPLUS [Full Text](#)

Document Number  
149 566879

Title  
Optical instruments with phosphorescent light-emitting layers and display units

Author/Inventor

Miyamoto, Masaki; Sekiguchi, Toru; Kitta, Yoshitaka; Akiyama, Seiji; Kasakura, Akio

Patent Assignee/Corporate Source

Citizen Electronics Co., Ltd., Japan; NEC Lighting Ltd., Mitsubishi Chemical Corp.

Source

Jpn. Kokai Tokkyo Koho, 40pp. CODEN: JPOKAF

Document Type

Patent

Language

Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2006287104	A	20061127	JP 2007-133356	20070518

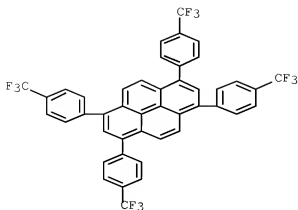
Abstract

The title instruments contain multiple nos. of stacked light conversion layers containing phosphorescent materials that entirely convert light with peak wavelength 360-420 nm. The phosphorescent materials include (A) 1st materials emitting light of peak wavelength 420-480 nm, (B) 2nd materials emitting light of peak wavelength >480 and <550 nm, or (C) 3rd materials emitting light of peak wavelength >550 and <700 nm. The instruments include the neighboring layers containing the phosphorescent materials in an overlapped condition, with the the overlapped phosphorescent materials emitting light of different spectra. Also claimed are the instruments containing UV absorbers in the parts of the layers free of the phosphorescent materials. Display units including the instruments are also claimed.

HR Structure

CAS Registry Number  
981853-23-2 CAPLUS

Chemical or Trade Name  
Pyrene, 1,3,6,8-tetrakis[4-(trifluoromethyl)phenyl]- (CA INDEX NAME)



19 ANSWER 9 OF 68 CAPLUS COPYRIGHT 2009 ACS on ESN

Accession Number  
20081106412 CAPLUS [Full-text](#)  
Document Number  
148366591

Title  
Light-emitting device containing pyrene derivative

Author/Inventor  
Nagao, Kazumasa, Ogawa, Takafumi, Marasa, Seisheo, Tomonaga, Tsuyoshi  
Patent Assignee/Corporate Source  
Toray Industries, Inc., Japan

Source  
PCT Int. Appl., 80pp. CODEN: P00X02

Document Type  
Patent

Language  
Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2008/106260	A1	20080912	WO 2008-JP33461	20080228
JP 2008252663	A	20081016	JP 2007-505249	20071127

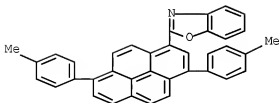
#### Abstract

Disclosed is a light-emitting device having high luminous efficiency and excellent durability. Specifically disclosed is a light-emitting device which comprises at least a light-emitting layer arranged between an anode and a cathode and emits light by an elec. energy. This light-emitting device is characterized in that the light-emitting layer contains a pyrene compound represented by the general formula (1) and an organic fluorescent substance having a fluorescence peak wavelength of not less than 500 nm but not more than 600 nm. In the formula, R1-R15 may be the same or different and each represents a member selected from the group consisting of a hydrogen, alkyl groups, cycloalkyl groups, heterocycloalkyl groups, alkenyl groups, cycloalkenyl groups, alkynyl groups, alkoxy groups, aryl groups, alkylthio groups, aryl ether groups, aryl thioether groups, aryl groups, heteroaryl groups, an amino group, a silyl group, -R1-R17 groups and ring structures formed together with an adjacent substituent, and R18 and R17 are selected from aryl groups and heteroaryl groups. n-number of R1-R16 is used for a linkage with a bicyclic benzothienopyridine ring, and n is an integer of 1-4. Y is selected from an oxygen atom, a sulfur atom and a -NR18- group, and R18 is selected from a hydrogen, alkyl groups, cycloalkyl groups, heterocycloalkyl groups, aryl groups and heteroaryl groups, and R18 and R15 may combine together to form a ring.

#### Hit Structure

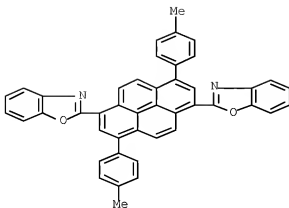
CAS Registry Number  
908021-69-8 CAPLUS

Chemical or Trade Name  
Benzoselenole, 2-[3,3'-(8-bis(4-methylphenyl))-1,3'-pyrenyl]- (CA INDEX NAME)



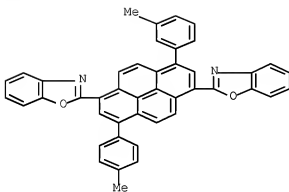
CAS Registry Number  
106856-06-0 CAPLUS

Chemical or Trade Name  
Benzoselenole, 2,2'-(3,3'-(8-bis(4-methylphenyl))-1,3'-pyrenediyl)bis- (CA INDEX NAME)



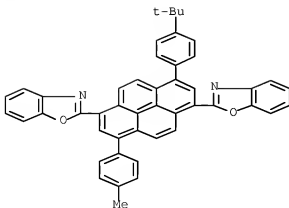
CAS Registry Number  
1056986-57-7 CA21/03

Chemical or Trade Name  
Benzoazole, 2,2'-[3-(3-methylphenyl)-8-(4-methylphenyl)-1,6-pyrenediyl]bis- (CA INDEX NAME)



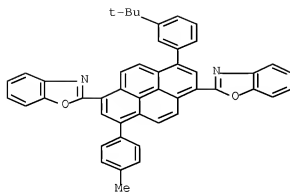
CAS Registry Number  
1056986-58-8 CA21/03

Chemical or Trade Name  
Benzoazole, 2,2'-[3-(4-[1,3-dimethylethyl]phenyl)-8-(4-methylphenyl)-1,6-pyrenediyl]bis- (CA INDEX NAME)



CAS Registry Number  
105595-53-3    Chelaris

Chemical or Trade Name  
Bismacazole, 2,2'-[3-(3-[2,1-dimethylethyl]phenyl)-6-(4-methylphenyl)-3,6-  
pyrenediyl]bis- (CA INDEX NAME)



19 ANSWER 10 OF 68 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number 20081104002 CAPLUS Full-text

Document Number 149365924

Title

Light-emitting device material and light-emitting device  
Nagai, Kazumasa; Tomimaga, Tsuyoshi

Patent Assignee/Corporate Source

Toray Industries, Inc., Japan

Source

PCT Int. Appl., 66pp. CODEN PUXXD2

Document Type

Patent

Language

Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2008108256	A1	20080912	WO 2008JP3464	20080228

Abstract

Disclosed is a light-emitting device material containing a pyrene compound I below, which enables to obtain a light-emitting device having high efficiency and excellent durability. Also disclosed is a light-emitting device using such a light-emitting device material. (In the formula below, R1-R17 may be the same as or different from one another and represent one selected from the group consisting of a H, an alkyl group, a cycloalkyl group, a heterocyclic group, an alkoxy group, an allylthio group, an arylether group, an amino group, a heteroaryl group, an aryl group, a heteroaryl group, an amino group, a silyl group, a fluoro group, a cyano group, a ring structure formed together with an adjacent substituent, with R18 and R19 being an aryl group or a heteroaryl group; n represents an integer of 1-2; and X represents a single bond, an arylene group or a heteroarylene group. In this connection, one of R18/R19 is used for the connection with X.).

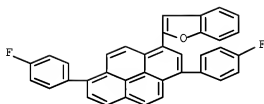
HE Structure

CAS Registry Number

95950-14-2 CAP100

Chemical or Trade Name

Dibenzofuran, 2-[1,3,8-bis(4-fluorophenyl)-1-pyrenyl]- (CA INDEX NAME)

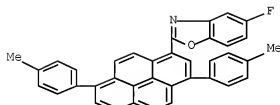


CAS Registry Number

1056113-68-3 CAP103

Chemical or Trade Name

Dibenzofuran, 2-[1,3,8-bis(4-methylphenyl)-1-pyrenyl]-5-fluoro- (CA INDEX NAME)

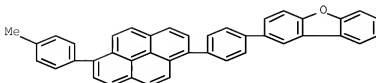


CAS Registry Number

1056113-66-6 CAP105

Chemical or Trade Name

Dibenzofuran, 2-[4-(6-(4-methylphenyl)-1-pyrenyl)phenyl]- (CA INDEX NAME)

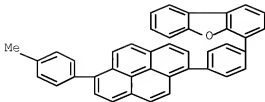


CAS Registry Number

1056113-69-5 CAP106

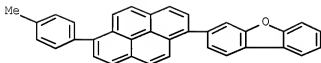
Chemical or Trade Name

Dibenzofuran, 4-[4-(6-(4-methylphenyl)-1-pyrenyl)phenyl]- (CA INDEX NAME)



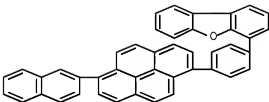
CAS Registry Number  
105613-01-9 CAMEL28

Chemical or Trade Name  
Dibenzofuran, 3-[6-(4-methylphenyl)-2-pyrenyl]- (CA INDEX NAME)



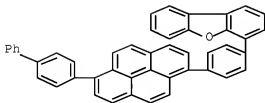
CAS Registry Number  
105613-02-0 CAMEL28

Chemical or Trade Name  
Dibenzofuran, 4-[6-(2-naphthalenyl)-1-pyrenyl]phenyl- (CA INDEX NAME)



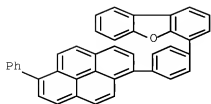
CAS Registry Number  
105613-03-5 CAMEL28

Chemical or Trade Name  
Dibenzofuran, 4-[4-(5-[1,1'-biphenyl]-4-yl)-2-pyrenyl]phenyl- (CA INDEX NAME)



CAS Registry Number  
105613-07-9 CAMEL28

Chemical or Trade Name  
Dibenzofuran, 4-[4-(6-phenyl-2-pyrenyl)phenyl]- (CA INDEX NAME)



US ANSWER 11 OF 68 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number

20081046199 CAPLUS [Full text](#)

Document Number

149.315989

Title

Blue light emitting compound and organic electroluminescent device using the same

Author/Inventor

JW. Jong-Tae, Lee, Sang-Han, Hwang, Sung-Kwang, Yoo, Seon-Kyun

Patent Assignee/Corporate Source

SFC Co., Ltd., S. Korea

Source

U.S. Pat. Appl. Publ., 44pp. CODEN: USXXDO

Document Type

Patent

Language

English

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 20080203990	A1	20080828	US 2007-020676	20070621
KR 2008079856	A	20080902	KR 2007-00697	20070928
KR 674472	B1	20081216		
JP 2008214392	A	20080918	JP 2007-133381	20070918

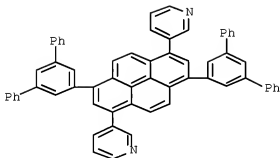
Abstract

A blue light emitting compound [A1-4 = C6-20 aryl, which may be substituted with C1-10 alkyl, alkoxy, arylalkoxy, alkylthio, cyano, halo, C6-20 arylalkoxy, arylthio, arylalkyl, or a C4-15 heteroaryl] and A1-4 includes at least one alkyl(s) or aryl(s) (n = 0 or 1) and an organic electroluminescent device using the compound are provided. The device exhibits improved color purity of blue emission and excellent life characteristics so as to be used to manufacture a full-color display.

HR Structure

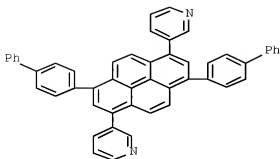
CAS Registry Number  
1049908-69-6 CAPLUS

Chemical or Trade Name  
Pyridine, 3,3'-(3,8-bis(1,3,5-triphenyl-2-yl)-1,6-pyrenediyl)bis-  
(CA 2008-09-18)



CAS Registry Number  
1049908-71-0 CAPLUS

Chemical or Trade Name  
Pyridine, 3,3'-(3,8-bis(1,3,5-triphenyl-2-yl)-1,6-pyrenediyl)bis-  
(CA 2008-09-18)



66.CITING REF COUNT: 2 THERE ARE 2 CAPLUS RECORDS THAT CITE THIS RECORD (3 CITINGS)

19 ANSWER 12 OF 66 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number  
2008 103817 CAPLUS [Fulltext](#)  
Document Number  
148 278089

Title  
Light-emitting materials containing anthracene derivatives and light-emitting elements

Author/Inventor  
Guenaga, Masahito, Sugimoto, Kazumori, Murase, Seichiro  
Patent Assignee/Corporate Source  
Toray Industries, Inc., Japan

Source  
Jpn. Kokai Tokkyo Koho, 26pp. COCEN-J000AF

Document Type  
Patent

Language  
Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2008195841	A	20080228	JP 2007-33012	20070214

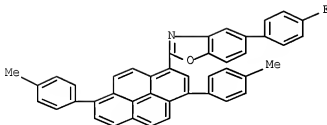
Abstract

The title materials contain anthracene dyes 1 (R1-R17 = H, (cyclo)alkyl, heterocyclic, alkoxy, allylthio, aryl ether, aryl thioether, (hetero)aryl, amino, silyl, R1-R17 may form ring between neighboring groups, Ar1 = (hetero) arylene, Ar2-Ar3 = (hetero)aryl, Ar2 + Ar3 may form ring, X = single bond, (hetero)arylene, n = 1-4, X bonds with R16-R17). Light-emitting devices comprising a pair of anode and cathode sandwiching a light-emitting layer containing the above given materials or those containing the above given materials as hosts and dopants are also claimed. The materials are suitable for forming thin films and give light-emitting devices showing high emission efficiency and long service life.

Hit Structure

CAS Registry Number  
929100-33-2 CAPLUS

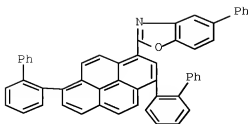
Chemical or Trade Name  
Benzoxazole, 2-[1,3-bis(4-(6-methylphenyl)-5-pyrenyl)-5-(4-fluorophenyl)]-  
(CA INDEX NAME)



CAS Registry Number  
929100-33-3 CAPLUS

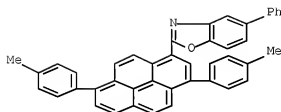
Chemical or Trade Name  
Benzoxazole, 2-[1,3-bis(4-(1,3'-biphenyl)-2-yl)-5-pyrenyl]-5-phenyl-  
(CA INDEX NAME)





CAS Registry Number  
1048016-03-0 CAS/705

Chemical or Trade Name  
Benzoxazole, 2-[3,8-bis(4-methylphenyl)-1-pyrenyl]-5-phenyl- (CA INDEX NAME)



LR ANSWER 13 OF 66 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number  
2008 830594 CAPLUS Fulltext

Document Number  
148 118415

Title  
Materials for light-emitting devices

Author/Inventor  
Kawamoto, Kazunari; Murase, Seichiro; Nagao, Kazuma

Patent Assignee/Corporate Source  
Toray Industries, Inc., Japan

Source  
Jpn. Kokai Tokkyo Koho, 27pp. CODEN JKKXAF

Document Type  
Patent

Language  
Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2008159843	A	20080710	JP 2006-047112	20061229

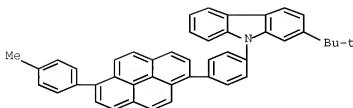
Abstract

The materials contain pyrene compds. (I), where R1 apprs. R17 = H, alkyl, cyclo-alkyl or heterocyclic group; Ar = arylene or hetero-arylene group; x1 of R1 apprs. R17 = alkyl group, R3 and/or R5 = aryl or hetero-aryl group; or R4 = alkyl or cyclo-alkyl group.

HR Structure

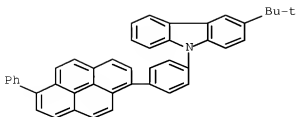
CAS Registry Number  
929009-63-4 CAS/705

Chemical or Trade Name  
9H-Carbazole, 2-[1,3-dimethyl-4-phenyl-5-[(4-{6-(4-methylphenyl)-1-pyrenyl}phenyl)-3-pyrenyl]phenyl]- (CA INDEX NAME)



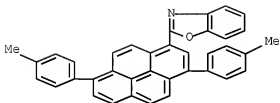
CAS Registry Number  
1035113-33-7 CAS/705

Chemical or Trade Name  
9H-Carbazole, 2-[1,3-dimethyl-4-phenyl-5-[(4-{6-phenyl-1,3-pyrenyl}phenyl)-3-pyrenyl]phenyl]- (CA INDEX NAME)



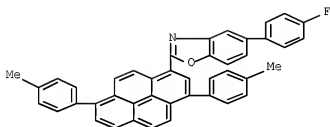
CAS Registry Number  
749211-65-9 CAPLOS

Chemical or Trade Name  
Benzonazole, 2-[3,8-bis(4-methylphenyl)-1-pyrenyl]- (CA INDEX NAME)



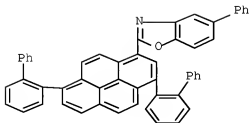
CAS Registry Number  
929100-31-2 CAPLOS

Chemical or Trade Name  
Benzonazole, 2-[3,8-bis(4-methylphenyl)-1-pyrenyl]-5-(4-fluorophenyl)- (CA INDEX NAME)



CAS Registry Number  
929100-58-3 CAPLOS

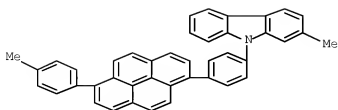
Chemical or Trade Name  
Benzonazole, 2-[3,8-bis(1,2'-biphenyl)-2-yl]-1-pyrenyl]-5-phenyl)- (CA INDEX NAME)



CAS Registry Number  
929099-66-1 CAPLOS

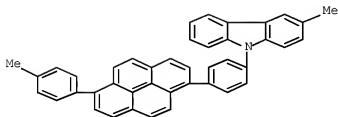
Chemical or Trade Name  
98-Carbazole, 2-methyl-9-[6-(4-methylphenyl)-1-pyrenyl]phenyl)- (CA INDEX NAME)

INDEX NAME:



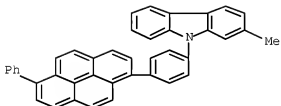
CAS Registry Number  
929100-16-3 CAS108

Chemical or Trade Name  
9B-Carbazole, 3-methyl-9-[4-{6-(4-methylphenyl)-1-pyrenyl}phenyl]- (CA INDEX NAME)



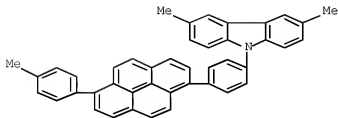
CAS Registry Number  
1035113-12-8 CAS108

Chemical or Trade Name  
9B-Carbazole, 2-methyl-9-[4-{6-phenyl-1-pyrenyl}phenyl]- (CA INDEX NAME)



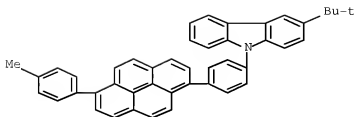
CAS Registry Number  
1035113-14-8 CAS108

Chemical or Trade Name  
9B-Carbazole, 3,6-dimethyl-9-[4-{6-(4-methylphenyl)-1-pyrenyl}phenyl]- (CA INDEX NAME)



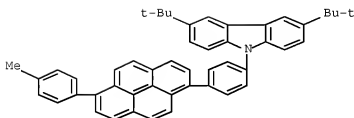
CAS Registry Number  
1035113-15-9 CAS108

Chemical or Trade Name  
9B-Carbazole, 3-[5,7-dimethyl-1H-indol-3-yl]-9-[4-{6-(4-methylphenyl)-1-pyrenyl}phenyl]- (CA INDEX NAME)



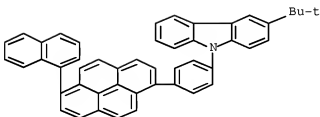
CAS Registry Number  
103511-16-9 CAS#103

Chemical or Trade Name  
9H-Carbazole, 1,4-bis(1,1-dimethylethyl)-9-[4-(6-methylphenyl)-1-pyrenyl]phenyl-1- (CA INDEX NAME)



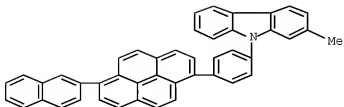
CAS Registry Number  
103511-39-1 CAS#103

Chemical or Trade Name  
9H-Carbazole, 1,4-bis(1,1-dimethylethyl)-9-[4-(6-(1-naphthalenyl)-1-pyrenyl]phenyl-1- (CA INDEX NAME)



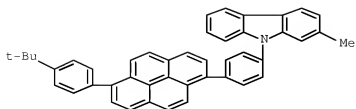
CAS Registry Number  
103511-38-2 CAS#103

Chemical or Trade Name  
9H-Carbazole, 2-methyl-9-[4-(6-(2-naphthalenyl)-1-pyrenyl]phenyl-1- (CA INDEX NAME)



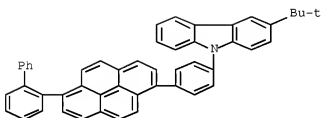
CAS Registry Number  
103511-39-3 CAS#103

Chemical or Trade Name  
9H-Carbazole, 9-[4-(6-(1,3-dimethylethyl)phenyl)-1-pyrenyl]phenyl-1- (CA INDEX NAME)



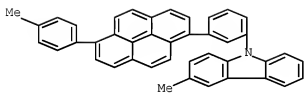
CAS Registry Number  
103513-40-8 CAPLOS

Chemical or Trade Name  
SP-Carbazole, 2-[4-(5-[1,1'-b[phenyl]-2-yl-1-pyrenyl]phenyl)-3-(1,1'-dimethylethyl)-1H-CARBAZOLE]



CAS Registry Number  
103513-41-7 CAPLOS

Chemical or Trade Name  
SP-Carbazole, 2-[4-(5-[1,1'-b[phenyl]-2-yl-1-pyrenyl]phenyl)-3-(1,1'-dimethylethyl)-1H-CARBAZOLE]



L9 ANSWER 14 OF 68 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number  
2008 69492 CAPLUS Full-text

Document Number  
149.41410

Title

Light-emitting elements with composite layers

Author/Inventor

Sato, Satoshi, Okawa, Nobuharu

Patent Assignee/Corporate Source

Semiconductor Energy Laboratory Co., Ltd., Japan

Source

Eur. Pat. Appl., 34pp. CODEN EPXIXD

Document Type

Patent

Language

English

Patent Information

PATENT NO.	KEY	DATE	APPLICATION NO.	DATE
EP 1930969	A2	20080611	EP 2007-23467	20071204
US 20080261075	A1	20081023	US 2007-946484	20071128
KR 2008051095	A	20080610	KR 2007-124963	20071204
JP 2008166746	A	20080717	JP 2007-319090	20071204

Abstract

Light-emitting devices comprising a light-emitting layer between an anode and a cathode, and a first layer and a second layer included in the light-emitting layer are described in which the first layer includes a first organic compound and an organic compound having a hole transporting property, the second layer includes a second organic compound and an organic compound having an electron transporting property, the first layer is formed in contact with the second layer, and is located between the second layer and the anode, at least one of the organic compound having the hole transporting property and the organic compound having the electron transporting property is a high mol. weight compound, and the first organic compound and the second organic compound are the same compound. Light-emitting devices comprising an anode, a cathode, at least first and second light-emitting units between the anode and the cathode, and a charge generating layer between the first and second light-emitting units, are also described in which each of the light-emitting units comprises a first layer including a first organic compound and a second organic compound having a hole transporting property, a second layer in contact with the first layer and including a third organic compound and a fourth organic compound which has an electron transporting property, and in each of the first and second light-emitting units, the first layer is located between the anode and the second layer, the second layer is located between the cathode and the first layer, at least one of the second organic compound and the fourth organic compound is a high mol. weight compound, and the first compound is the same as the third compound. The devices may be employed as displays.

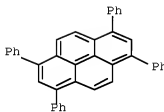
Hit Structure

CAS Registry Number

11639-82-9 CNTLOS

Chemical or Trade Name

Pyrene, 1,3,6,8-tetraphenyl- (CA INDEX NAME)



L9 ANSWER 15 OF 68 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number  
2008 677847 CAPLUS Full-text

Document Number  
191.66498

Title

Fabrication of ambipolar light-emitting transistor using high-photoluminescent organic single crystal

Author/Inventor

Bani, Satiro Z., Takenobu, Toshi, Yomogida, Yohei, Yamao, Takeshi, Yanino, Masayuki, Hotta, Shu, Adachi, Chihaya, Inoue, Yoshitiro

Patent Assignee/Corporate Source

Institute for Materials Research, Tohoku Univ., Sendai, 980-8577, Japan

Source

Proceedings of SPIE (2008), 6998/Organic Optoelectronics and Photonics III, 69980Z/1-69980Z/16 CODEN PROSDQ, ISSN 0277-786X

Document Type

Journal

Language

English

Abstract

Organic single-crystal ambipolar light-emitting transistors show a great interest due to their unique features, spectral matching with their active material spectra and the quantum efficiency preservation during ambipolar operation at high c.d. operation in a.c.m.c. mode. The development of ambipolar light-emitting transistor based on high photoluminescent material,  $\alpha$ -octadecylthiophene (BPT) single crystal is reported. By using bottom-gated top-contact configuration, with Cu and Au opposed metal electrodes, high value of hole and electron mobility were obtained. Extremely bright light emission observed during ambipolar operation shows prospect for elec. driven amplified spontaneous emission from organic materials.

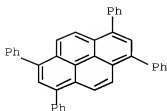
Hit Structure

CAS Registry Number

11639-82-9 CNTLOS

Chemical or Trade Name

Pyrene, 1,3,6,8-tetraphenyl- (CA INDEX NAME)



L9 ANSWER 18 OF 68 CAPLUS COPYRIGHT 2009 ACS on STN  
 Accession Number 2008 836727 CAPLUS Fulltext  
 Document Number 148.574178

Title Organic electroluminescent device  
 Author/Inventor Arikawa, Takashi; Fukutaka, Kenichi  
 Patent Assignee/Corporate Source Idemitsu Kosan Co., Ltd., Japan  
 Source PCT Int. Appl., 68pp CODEN PUX0D2  
 Document Type Patent  
 Language Japanese  
 Patent Information

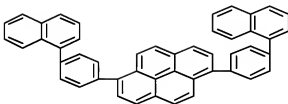
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2006042773	A1	20060529	WO 2007-JP72427	20071120
US 2006019796	A1	20060814	US 2007-943969	20071120
KR 2006083982	A	20060903	KR 2009-710215	20071120

#### Abstract

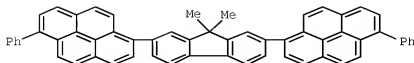
Disclosed is an organic electroluminescent device which comprises at least a light-emitting layer, an electron transporting layer and an electron injection layer between a cathode and an anode. The light-emitting layer contains a host material composed of a pyrene derivative, a chrysene derivative, a fluorene derivative or an anthracene derivative. The electron transporting layer contains an electron transporting material which is composed of a pyrene derivative, a chrysene derivative, a fluorene derivative or an anthracene derivative having no heterocyclic ring, and has a fluorescence quantum yield lower than that of the host material contained in the light-emitting layer. The electron injection layer contains a compound having a noncomplex N-containing five-membered heterocyclic structure.

#### Hit Structure

CAS Registry Number 1028763-09-5 CASURL  
 Chemical or Trade Name Pyrene, 1,6-bis[4-(1-naphthalenyl)phenyl]- (CA 21085X NAME)



CAS Registry Number 1028763-02-8 CASURL  
 Chemical or Trade Name Pyrene, 2,2'-(19,9-dimethyl-9H-fluorene-2,7-diyl)bis[6-phenyl]- (CA 21085X NAME)



L9 ANSWER 17 OF 68 CAPLUS COPYRIGHT 2009 ACS on STN  
 Accession Number 2008 444977 CAPLUS Fulltext  
 Document Number 148.413990

Title Light emitting device material and light emitting device  
 Author/Inventor Ogawa, Takashi; Murase, Seishiro; Tominaga, Takeshi  
 Patent Assignee/Corporate Source Toray Industries, Inc., Japan

## Source

Jpn Kokai Tokkyo Koho, 20pp. OODEN JKKIAF

Document Type

Patent

Language

Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2008081704	A	20080410	JP 2006-286719	20060929

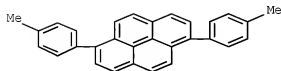
## Abstract

The invention refers to a pyrene compound used in an electroluminescent device, wherein the pyrene structure may contain alkyl, cycloalkyl, heterocyclic, alkenyl, cycloalkenyl, aryl, heteroaryl, halo, cyano, carbonyl, carboxyl, enyl, carbonyl, carbonyl or phosphine oxide substituents or condensed rings formed with adjacent substituents, and at least one of the substituents is an ethynyl aryl, or ethynyl heteroaryl.

## He Guide

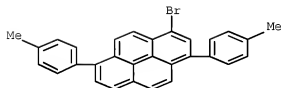
CAS Registry Number  
90021-87-0 CASUS

Chemical or Trade Name  
Pyrene, 1,6-bis[4-(4-methylphenyl)]- (CA INDEX NAME)



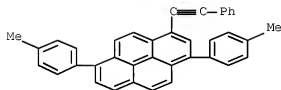
CAS Registry Number  
90021-88-1 CASUS

Chemical or Trade Name  
Pyrene, 1-bromo-1,6-bis[4-(4-methylphenyl)]- (CA INDEX NAME)



CAS Registry Number  
1015482-03-7 CASUS

Chemical or Trade Name  
Pyrene, 1,6-bis[4-(4-methylphenyl)]-3-(2-phenylethynyl)- (CA INDEX NAME)





19 ANSWER 18 OF 68 CAPLUS COPYRIGHT 2669 ACS on STN  
Accession Number  
20071484772 CAPLUS Full-text  
Document Number  
14845782

Title

Material for light-emitting device, and light-emitting device

Author/Inventor

Nagai, Kazumasa; Murase, Seichiro

Patent Assignee/Corporate Source

Toray Industries, Inc., Japan

Source

PCT Int. Appl., 65 pp. CODEN: P6CKD2

Document Type

Patent

Language

Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2007148136	A1	20071221	WO 2007JP61997	20070608
EP 2028249	A1	20090229	EP 2007-767068	20070608
KR 2009017475	A	20090218	KR 2008-724201	20081002
CN 101473012	A	20090701	CN 2007-80622429	20081215

Abstract

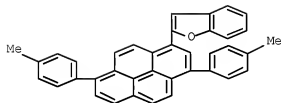
Disclosed is a material for a light-emitting device, which comprises a pyrene compound represented by the general formula I. The material can produce a light-emitting device having high efficiency and excellent color purity and durability. Also disclosed is a light-emitting device using the above material, wherein any one of R1 to R10 represents a group represented by the general formula II or any one to four of R1 to R10 independently represent a group represented by the general formula

HN Structure

CAS Registry Number  
955900-13-1 CAPLUS

Chemical or Trade Name

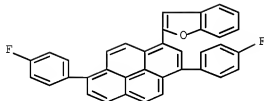
Benzoofuran, 2-[3,9-bis(4-methylphenyl)-1-pyrenyl]- (CA INDEX NAME)



CAS Registry Number  
955900-14-2 CAPLUS

Chemical or Trade Name

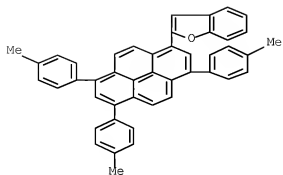
Benzoofuran, 2-[3,9-bis(4-fluorophenyl)-1-pyrenyl]- (CA INDEX NAME)



CAS Registry Number  
955900-13-3 CAPLUS

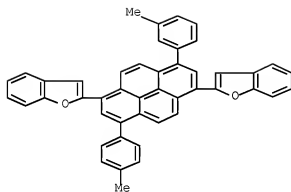
Chemical or Trade Name

Benzoofuran, 2-[3,6,8-tris(4-methylphenyl)-1-pyrenyl]- (CA INDEX NAME)



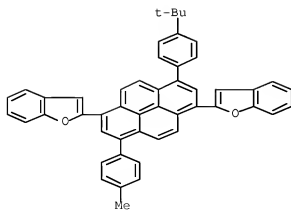
CAS Registry Number  
959900-17-5 CAFL03

Chemical or Trade Name  
Benzoofuran, 2,2'-bis-(3-methylphenyl)-6-(4-methylphenyl)-1,6-pyrenediylbis-  
(CA INDEX NAME)



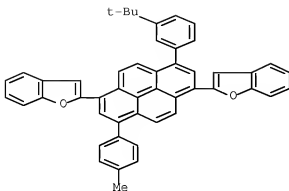
CAS Registry Number  
959900-18-6 CAFL03

Chemical or Trade Name  
Benzoofuran, 2,2'-bis-(4-ethyl-1,4-dimethylphenyl)-6-(4-methylphenyl)-1,6-pyrenediylbis-  
(CA INDEX NAME)



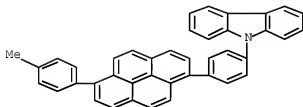
CAS Registry Number  
959900-19-7 CAFL03

Chemical or Trade Name  
Benzofuran, 3,2'-(3-[1,1'-di(4-methylphenyl)phenyl]-4-(4-methylphenyl)-1,6'-pyrenediylidene)- (CA INDEX NAME)



CAS Registry Number  
929099-34-7 CAPLUS

Chemical or Trade Name  
5B-Carbazole, 9-[4-(6-(4-methylphenyl)-5-pyrenyl)phenyl]- (CA INDEX NAME)



GR CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD  
(3 CITINGS)

LR ANSWER 19 OF 66 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number  
2007193204 CAPLUS [Full Text](#)  
Document Number  
147531191

Title  
Organic electroluminescence element

Author/Inventor  
Kama, Hiroshi, Yamamoto, Hiroshi, Hasekawa, Chieko  
Patent Assignee/Corporate Source  
Idemitsu Kosan Co., Ltd., Japan

Source  
PCT Int. Appl., 69 pp. CODEV P00X02

Document Type  
Patent

Language  
Japanese

Patent Information

PATENT NO	KIND	DATE	APPLICATION NO	DATE
WO 2007132704	A1	20071122	WO 2007JP59564	20070909
EP 2034803	A1	20090311	EP 2007-742999	20070909
KR 2009007749	A	20090120	KR 2006-727476	20061110
US 20090206736	A1	20090820	US 2006-306132	20061110
CN 101444141	A	20090507	CN 2007-8007062	20081111

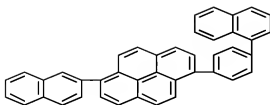
#### Abstract

In an organic EL element, at least two organic light emitting layers are arranged between an anode and a cathode, and at least one intermediate connecting layer is arranged between the organic light emitting layers. In the intermediate connecting layer, an acceptor layer, a donor layer and an electron transport material layer including an aromatic ring-compound which is not a metallic complex are laminated in this order from the side of the cathode.

#### HE Structure

CAS Registry Number  
870774-21-3 CAPLUS

Chemical or Trade Name  
Fyrcece, 1-(2-naphthalenyl)-6-(4-(1-naphthalenyl)phenyl)- (CA INDEX NAME)



19 ANSWER 21 OF 68 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number

20071300782 CAPLUS [Full text](#)

Document Number

147541950

Title

Preparation of arylsilanes and organic electroluminescent device utilizing the same

Author/Inventor

Na, Mitsuru

Patent Assignee/Corporate Source

Idemitsu Kosan Co., Ltd., Japan

Source

PCT Int. Appl., 84pp CODEN PUXOD2

Document Type

Patent

Language

Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2007128702	A1	20071115	WO 2007JP94899	20070906
KR 2009018901	A	20090524	KR 2006-727359	20061107
US 20090236975	A1	20090924	US 2009-259967	20090213

Abstract

There is disclosed a novel silicon compound of a specific structure having a substituted silyl group [I: FA1 = (un)substituted C6-50 condensed ring group, L1, L2, Ar1-Ar6 = each (un)substituted C6-50 aromatic hydrocarbon, C6-50 aromatic heterocyclic, C6-50 condensed aromatic group, C1-10 alkyl, a, b, d, e = an integer of 0-6, provided that a + e ≤ 1; c = an integer of 1-6, when FA1 = arithylene and a + e = 1, L1 = L2 = phenylene). There is also disclosed an organic electroluminescent device wherein an organic thin film composed of one or more layers including at least a light-emitting layer is interposed between a cathode and an anode. In the organic electroluminescent device, at least one layer of the organic thin film contains the silicon compound I by itself or as a component of a mixture. The organic electroluminescent device enables to obtain light emission having high luminous efficiency, high color purity, and long life. Thus, 1,4-bis(dibenzosilyl)benzene was treated with 1.4 M BuLi/hexane in toluene/EC (1/1) at -75 to -20° for 10 min and at -20° for 1 h, washed dropwise with a solution of triphenylsilyl chloride in toluene at -75° over 20 min, and stirred for 1 h and at room temperature for overnight to give 65.4% (4-nodopropyl)triphenylsilane (II). II and [3-(9-(1-naphthyl)(anthracen-5-yl)phenyl)boronic acid were heated in the presence of tetrakis(triphenyl)phosphine potassium in a mixture of 2 M aqueous Na2CO3 solution, 1,2-dimethoxyethane, and toluene under refluxing at 60° for 8 h to give 84.6% [3-(9-(1-naphthyl)(anthracen-5-yl)-1'-phenyl-4'-yl)triphenylsilane (III). An organic electroluminescent device with a luminescent layer of III showed luminescent efficiency of 11.8 cd/A and service life of 9250 h at 1000 cd/m<sup>2</sup>.

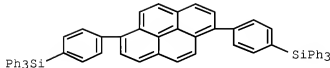
HR Structure

CAS Registry Number

916776-75-3 CAPLUS

Chemical or Trade Name

Pyrene, 1,6-bis[4-(triphenylsilyl)phenyl]- (CA INDEX NAME)



19 ANSWER 21 OF 68 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number

20071293072 CAPLUS [Full text](#)

Document Number

148108619

Title

Steric inhibition of  $\pi$ -stacking 1,3,6,8-Tetraarylsilanes as Efficient Blue Emitters in Organic Light Emitting Diodes (OLEDs)

Author/Inventor

Murthy, Jeevan Narasimhan, Natarajan, Palani, Venkateshwaran, Parthasarathy, Huang, Duo-Peng, Chow, Tashin J.

Patent Assignee/Corporate Source

Department of Chemistry, Indian Institute of Technology, Kanpur, 208016, India

Source

Organic Letters (2007), 9(25), 9219-9218 CODEN ORLE77, ISSN 1523-7660

Document Type

Journal

Language

English

Abstract

The sterically congested tetraarylsilanes 1-3, which can be readily accessed by Suzuki coupling, exhibit no aggregation ( $\pi$ -stacking) behavior in both solution and solid states. The induced tendency of 1-3 toward crystallization and their moderate mol. dimensions permit exploitation as blue light emitting materials in OLEDs with respectable device performances.

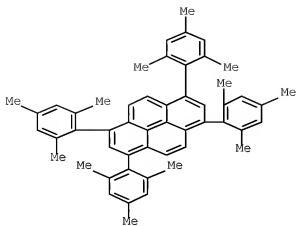
HR Structure

CAS Registry Number

1000391-93-4 CAPLUS

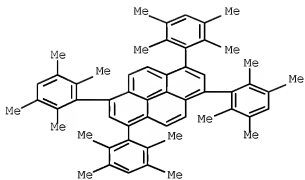
Chemical or Trade Name

Pyrene, 1,3,6,8-tetraakis[2,4,6-trimethylphenyl]- (CA INDEX NAME)



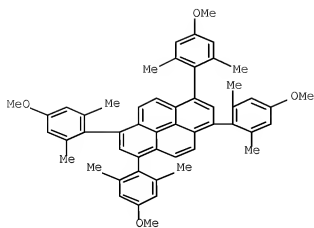
CAS Registry Number  
1000391-04-5 CMTS

Chemical or Trade Name  
Pyrene, 1,3,6,8-tetrakis[2,3,5,6-tetramethylphenyl]- (CA INDEX NAME)



CAS Registry Number  
1000391-99-6 CMTS

Chemical or Trade Name  
Pyrene, 1,3,6,8-tetrakis[4-methoxy-2,6-dimethylphenyl]- (CA INDEX NAME)



68. CITING REF COUNT: 9 THERE ARE 9 CNFLUS RECORDS THAT CITE THIS RECORD  
(9 CITINGS)

19 ANSWER 22 OF 48 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number  
2007100832 CAPLUS Full-text  
Document Number  
147417351

Title  
New diamine derivatives, preparation method thereof and organic electronic device using the same

Author/Inventor  
Jung, Hye-Young, Lee, Jee-Chul, Park, Jik-Kyoon, Kim, Kong-Kyoon, Kim, Ji-Eun, Park, Tae-Yoon, Hong, Sung-Kil, Jeon, Sang-Yoon, Jeong, Dong-Seob  
Patent Assignee/Corporate Source  
LG Chem, Ltd., S. Korea

Source  
PCT Int. Appl., 85 pp. CODEN P60X02

Document Type  
Patent

Language  
English

Patent Information

PATENT NO	KFIG	DATE	APPLICATION NO	DATE
WO 2007/06666	A1	20070927	WO 2007/KR1448	20070929
KR 2007096917	A	20071002	KR 2007-09893	20070929
KR 877876	B1	20090113		
EP 1996540	A1	20081209	EP 2007-715784	20070929
JP 2009590371	T	20090627	JP 2009-501361	20070929
KR 2008071969	A	20080805	KR 2006-72693	20060725
KR 887526	B1	20081106		
CN 10140255	A	20090408	CN 2007-00010256	20060923
US 20080134781	A1	20080528	US 2006-023483	20060923

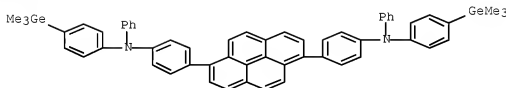
Abstract

The title diamine derivs are described by the general formula (Z1-Y1)-(A1-Ph-L-N-A2-Y2-Z2) (L = C6-30 aryl, A1 and A2 = independently selected Ph or naphthyl groups with 1-9 substituents, >1 of which is selected from -GeRR', -SiRR', and D with the remaining substituents being independently selected from H, CN, NO2, C6-20 arylamine, C6-20 arylthioether, C6-20 cycloalkyl, -OR, -OR', -SAr, -TeAr, -NR', -NR', -SiRR', -SiRR', C6-20 aryl, C6-20 arylalkenyl, and C4-20 alkylene which forms a fused ring with the Ph or the naphthyl, Y1 and Y2 = independently selected C6-20 arylene or divalent C6-20 heterocycle, Z1 and Z2 = = independently selected H, nias, D, CN, NO2, C1-20 alkyl, C1-20 alkoxy, C6-20 aryl, C6-20 arylthioether, C6-20 cycloalkyl, -OR, -OR', -SAr, -TeAr, -NR', -NR', -SiRR', -SiRR', C6-20 arylalkenyl, and C4-20 alkylene which forms a fused ring with the Ph or the naphthyl, and R, R' and R'' = independently selected H, C1-20 alkyl, C6-20 cycloalkyl, C6-20 aryl, or C6-20 heterocycle). Methods for preparing the diamine derivs are described which entail reacting a dibromo compound with an arylamine compound in the presence of a Pd catalyst. Electronic devices (e.g., organic light-emitting devices, organic photovoltaic cells, organic photoconductors, and organic transistors) employing the derivs in a layer between a pair of electrodes are also described. The diamine derivs can serve in a hole-injecting and/or hole-transporting layer, an electron-transporting layer, or a light-emitting layer.

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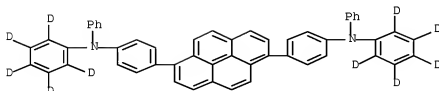
CAS Registry Number  
911033-16-0 CAPLUS

Chemical or Trade Name  
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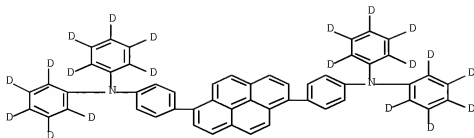
CAS Registry Number  
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Chemical or Trade Name  
Benzene-2,3,4,5,6-pentadeutero, N,N'-(1,6-pyrenediyl)bis[4-(4-phenyl)phenyl]- (CA 13085X NAME)



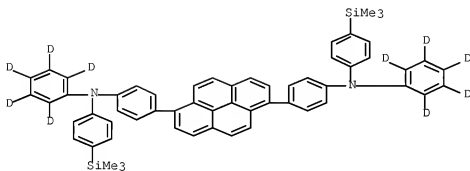
CAS Registry Number  
911033-13-1 CAPLUS

Chemical or Trade Name  
Benzene-2,3,4,5,6-pentadeutero, N,N'-(1,6-pyrenediyl)bis[4-(4-phenyl)phenyl]- (CA 13085X NAME)



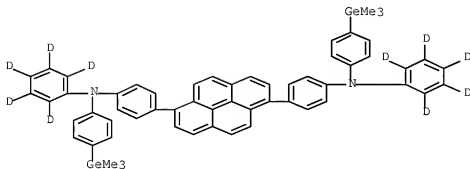
CAS Registry Number  
951039-10-2 CAS103

Chemical or Trade Name  
Benzene-2,3,4,5-tetradeutero, N,N'-(1,6-pyrenediyl)di-4,1-phenylenebis[N-(4-(trimethylsilyl)phenyl)- (CA INDEX NAME)



CAS Registry Number  
951039-13-3 CAS103

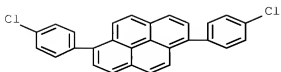
Chemical or Trade Name  
Benzene-2,3,4,5-tetradeutero, N,N'-(1,6-pyrenediyl)di-4,1-phenylenebis[N-(4-(trimethylsilyl)phenyl)- (CA INDEX NAME)



CAS Registry Number  
951039-40-0 CAS103

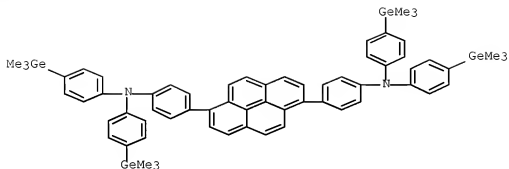
Chemical or Trade Name  
Pyrene, 1,6-bis(4-chlorophenyl)- (CA INDEX NAME)





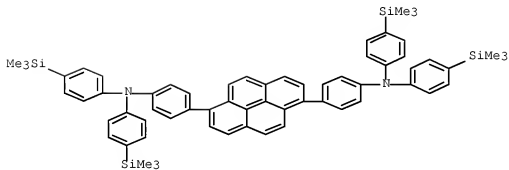
CAS Registry Number  
951038-85-3 CAS#

Chemical or Trade Name  
Benzonitrile, 4,4'-(1,6-pyrenediyl)bis[N,N-bis[4-(trimethylgermyl)phenyl]-  
(CA INDEX NAME)



CAS Registry Number  
951038-86-1 CAS#

Chemical or Trade Name  
Benzonitrile, 4,4'-(1,6-pyrenediyl)bis[N,N-bis[4-(trimethylsilyl)phenyl]-  
(CA INDEX NAME)



CAS Registry Number  
951038-87-2 CAS#

Chemical or Trade Name  
2-Naphthalenamine, N,N'-(1,6-pyrenediyl)di-4,1-phenylene)bis[N-(4-  
(trimethylgermyl)phenyl)- (CA INDEX NAME)



# Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2007/08457	A1	20070927	WO 2007-JP56603	20070930
JP 2008/01182	A	20080301	JP 2007-30093	20070209
US 2008/0179196	A1	20080716	US 2006-025379	20061219

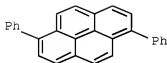
## Abstract

This invention pertains to a method for producing pyrene derivatives I and II (wherein X and Y = independently (un)substituted aryl, heteroaryl, alkyl, etc.) as light emitting materials. For example, pyrene was reacted with NBS to give 1,6- and 1,8-dibromopyrene mixture. The above mixture was treated with a variety of arylboronic acids to provide corresponding pyrene derivatives. The invention pyrene derivatives showed good light emitting properties compared to the conventional compound.

## Hit Structure

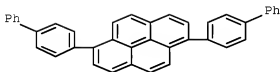
CAS Registry Number  
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Chemical or Trade Name  
Pyrene, 1,6-diphenyl- (CA INDEX NAME)



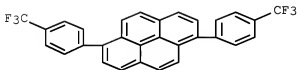
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Chemical or Trade Name  
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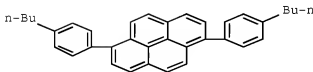
CAS Registry Number  
950779-02-0 CASLDS

Chemical or Trade Name  
Pyrene, 1,6-bis[4-(trifluoromethyl)phenyl]- (CA INDEX NAME)



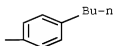
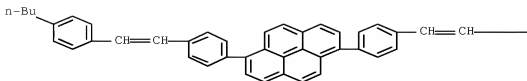
CAS Registry Number  
950779-03-0 CASLDS

Chemical or Trade Name  
Pyrene, 1,6-bis[4-butylphenyl]- (CA INDEX NAME)



CAS Registry Number  
950779-06-3 CASLDS

Chemical or Trade Name  
Pyrene, 1,6-bis[4-{2-[4-butylphenyl]ethenyl}phenyl]- (CA INDEX NAME)



19 ANSWER 24 OF 68 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number 2007 893228 CAPLUS PubID

Document Number 147 334326

Title Organic electroluminescent device

Author/Inventor Takasima, Yoriyuki; Funahashi, Masakazu; Ikeda, Kiyoshi; Hosokawa, Chisao

Patent Assignee/Corporate Source Idemitsu Kasei Co., Ltd., Japan

Source PCT Int. Appl., 126 pp. CODEN: PUXXD2

Document Type Patent

Language Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2007/00610	A1	20070907	WO 2007/093806	20070226
US 20070243411	A1	20071016	US 2007-679531	20070227
EP 1 990844	A1	20061112	EP 2007-737525	20070228
IN 2006CH04436	A	20060913	IN 2006-CH4438	20060622
KR 2006114762	A	20061231	KR 2006-721039	20060627
CN 101390230	A	20060916	CN 2007-6006655	20060627

#### Abstract

Disclosed is an organic electroluminescent device wherein an organic thin film composed of one or more layers including at least a light-emitting layer is interposed between a cathode and an anode. Since the light-emitting layer contains at least one compound having a specific fluorene structure and at least one fused ring-containing compound having a specific structure, the organic electroluminescent device is able to obtain blue light emission, while having long life and high luminous efficiency.

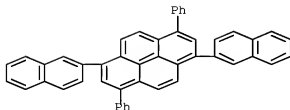
#### HR Structure

CAS Registry Number

949048-97-3 CAPLUS

Chemical or Trade Name

Pyrene, 1,6-di-(2-naphthalenyl)-3,8-diphenyl- (CA INDEX NAME)



08 CITING REF COUNT: 3 THERE ARE 3 CAPLUS RECORDS THAT CITE THIS RECORD (5 CITINGS)

19 ANSWER 25 OF 68 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number 2007 893620 CAPLUS PubID

Document Number 147 332701

Title Organic electroluminescent device of multi-photon emission mode having uniform luminance in a large-area format by use of a charge generation layer

Author/Inventor Ito, Yuchiro

Patent Assignee/Corporate Source Fujifilm Corporation Japan

Source U.S. Pat. Appl. Publ. 21 pp. CODEN: USXXCO

Document Type

Patent

Language

English

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 20070205411	A1	20070906	US 2007-713027	20070902
JP 2007242733	A	20070920	JP 2006-66246	20060306

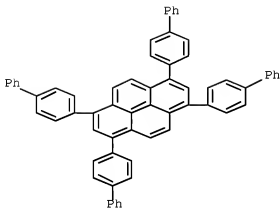
Abstract

Organic electroluminescent devices of multi-photon emission mode are described which comprise plural light emission layers and at least one charge generation layer between a pair of electrodes, arranged in a film thickness direction, where the charge generation layer includes at least one p-doped layer and at least one n-doped layer, and further includes an alkali metal layer and a layer containing a hole transport material between the p-doped layer and the n-doped layer. An organic electroluminescent device of multi-photon emission mode exhibiting little unevenness in luminescence even in a large-area format electroluminescence device is provided.

HR Structure

CAS Registry Number  
750213-07-3 CAS#LOS

Chemical or Trade Name  
Fyresow, 1,3,6,8-tetraphenyl[5,1'-biphenyl]-6-yl-- (CA INDEX NAME)



19 ANSWER 26 OF 68 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number

2007 893110 CAPLUS [Full Text](#)

Document Number

147332696

Title

Light emitting device material and light emitting device

Author/Inventor

Murase, Seishiro

Patent Assignee/Corporate Source

Toray Industries, Inc., Japan

Source

Jpn. Kokai Tokkyo Koho, 20pp. CODEN JHOXAF

Document Type

Patent

Language

Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2007224171	A	20070906	JP 2006-47964	20060224

Abstract

The invention relates to a light-emitting device material, suited for use in an organic electroluminescent device, represented by 1 [R1-10 = H, alkyl, cycloalkyl, etc.; n = 1-4 integer; \* one of R1-10 is linked to -C (ipbond N)]

Hit Structure

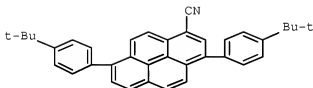
CAS Registry Number

947621-76-7 CAPLUS

Chemical or Trade Name

1-Pyreneaceticitrile, 3,6-bis[4-(1,1-dimethylethylphenyl)- (CA INDEX

NAME)



19 ANSWER 27 OF 68 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number

2007 911378 CAPLUS [Full Text](#)

Document Number

147285970

Title

Light emitting element with high emission efficiency containing pyrenes, pyromethanes, and/or metal complexes thereof

Author/Inventor

Iwata, Takeshi; Murase, Seishiro; Tomiyaga, Takeshi

Patent Assignee/Corporate Source

Toray Industries, Inc., Japan

Source

Jpn. Kokai Tokkyo Koho, 53pp. CODEN JHOXAF

Document Type

Patent

Language

Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2007208165	A	20070816	JP 2006-27944	20060206

Abstract

Disclosed is a light emitting element comprising a light-emitting layer between pos. and neg. electrodes containing pyrenes, pyromethanes, and/or metal complexes thereof.

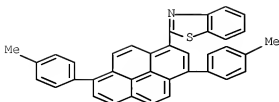
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CAS Registry Number

908011-69-7 CAPLUS

Chemical or Trade Name

Benzo[thiazolo], 2-[3,6-bis[4-(6-methylphenyl)-1-pyrenyl]- (CA INDEX NAME)

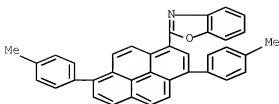


CAS Registry Number

908011-69-7 CAPLUS

Chemical or Trade Name

Benzo[thiazolo], 2-[3,6-bis[4-(6-methylphenyl)-1-pyr-amy]- (CA INDEX NAME)



LS ANSWER 28 OF 68 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number

2007 780509 CAPLUS File No.

Document Number

147153732

Title

Pyrene-based electron transporting compounds and organic light emitting device with decreased driving voltage comprising the electron transporting compound

Author/Inventor

Kim, Jung Kwon, Seo, Jeongdoe, Jeong, Hyun Cheol, Bin, Jang Kwan, Park, Changun

Patent Assignee/Corporate Source

Lg Electronics Inc., S. Korea

Source

Eur. Pat. Appl., 38pp. CODEN: EPXXDW

Document Type

Patent

Language

English

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1808912	A2	20070710	EP 2007-776	20070116
KR 681027	B1	20070209	KR 2006-4687	20060116
KR 681025	B1	20070209	KR 2006-4685	20060116
KR 681026	B1	20070209	KR 2006-4689	20060116
US 20070167628	A1	20070719	US 2007-653243	20070116
CN 101003506	A	20070725	CN 2007-10008308	20070116

Abstract

Electron transporting compound with Formula (I) and organic light emitting device employing the electron transporting compound to decrease driving voltage are provided, where A is a substituted or unsubstituted group consisting of pyridyl, quinolyl, quinoxalyl, quaterodil, benzindolyl, benzimidazolyl, and phenanthrolyl, and B and C are substituted or unsubstituted groups consisting of Ph, biphenyl, naphthyl, fluorenyl, terphenyl, phenanthrolyl, phenanthryl, and arthyl.

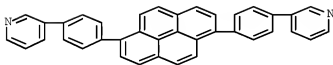
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CAS Registry Number

1057201-23-9 CAPLUS

Chemical or Trade Name

INDEX NAME NOT YET ASSIGNED

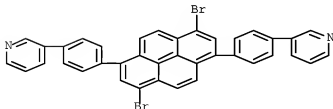


CAS Registry Number

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Chemical or Trade Name

INDEX NAME NOT YET ASSIGNED

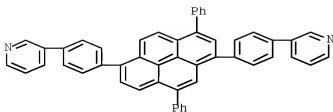


CAS Registry Number

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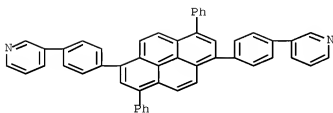
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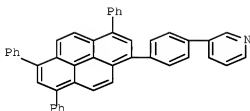
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943643-33-2 CAS100

Chemical or Trade Name  
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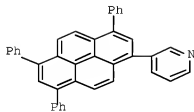
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943643-40-1 CAS100

Chemical or Trade Name  
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CAS Registry Number  
943643-46-7 CAS100

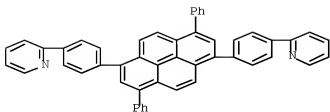
Chemical or Trade Name  
Pyridine, 3-[(1,8-diphenyl-1,6-pyrenediyl)di-4,1-phenylene]bis- (I)CA INDEX NAME:



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943643-34-3 CAS100

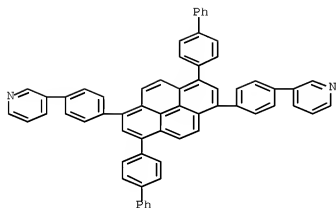
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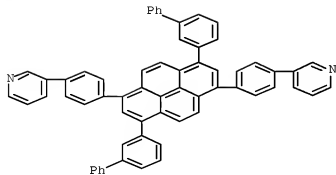
CAS Registry Number  
943643-35-4 CHARLUS

Chemical or Trade Name  
Pyridine, 3,3'-bis[1,3,8-bis(4-phenyl-1,6-pyrenediyl)]di-4,1-phenylene]bis- (CA INDEX NAME)



CAS Registry Number  
943643-36-5 CHARLUS

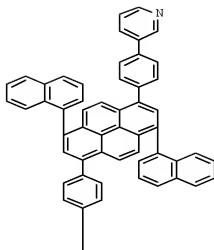
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CAS Registry Number  
943643-37-6 CHARLUS

Chemical or Trade Name  
Pyridine, 3,3'-bis[1,3,8-bis(1-naphthalenyl)]di-4,1-phenylene]bis- (CA INDEX NAME)

PAGE 1-A



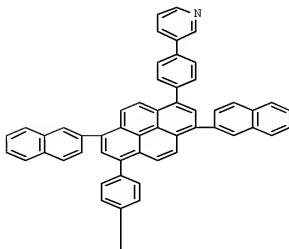
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CAS Registry Number  
943643-38-7 CASLIST

Chemical or Trade Name  
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(CA INDEX NAME)

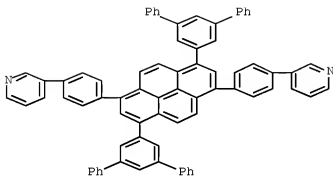
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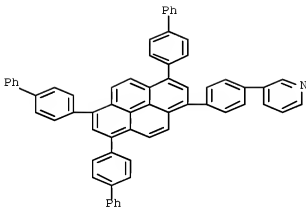
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Chemical or Trade Name  
Pyridine, 3-[4'-[2,6-bis(1,3,5'-terphenyl)-5'-yl]-1,6-pyrenediyl]di-  
4,1-phenylene]bis- (CA INDEX NAME)



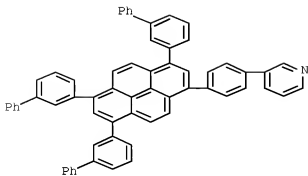
CAS Registry Number  
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Chemical or Trade Name  
Pyridine, 3-[4-[3,6,8-tris(1,1'-biphenyl]-6-yl)-1-pyrenyl]phenyl]- (CA  
INDEX NAME)



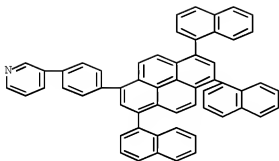
CAS Registry Number  
943643-43-3 CHFLDS

Chemical or Trade Name  
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INDEX NAME)



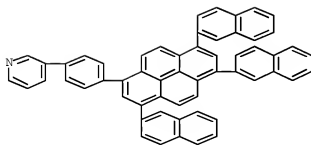
CAS Registry Number  
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Chemical or Trade Name  
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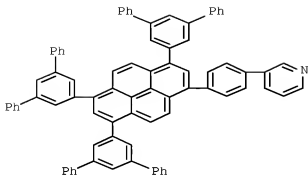
CAS Registry Number  
943643-44-5 CAPI/03

Chemical or Trade Name  
Pyridine, 3-[[4-(1,6,8-tri-2-naphthalenyl-1-pyrenyl)phenyl]- (CA INDEX NAME)



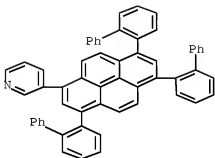
CAS Registry Number  
943643-45-5 CAPI/03

Chemical or Trade Name  
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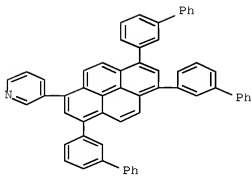
CAS Registry Number  
943643-50-3 CAP105

Chemical or Trade Name  
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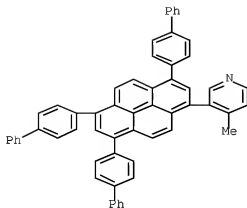
CAS Registry Number  
943643-35-4 CAP105

Chemical or Trade Name  
Pyridine, 3-([3,6,8-trisubstituted[1,2'-biphenyl]-2-yl)-1-pyrenyl]- (CA INDEX NAME)



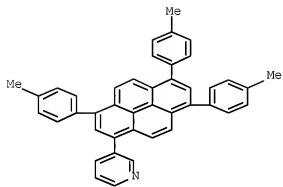
CAS Registry Number  
943643-32-5 CAP105

Chemical or Trade Name  
Pyridine, 4-methyl-3-([3,6,8-trisubstituted[1,2'-biphenyl]-4-yl)-1-pyrenyl]- (CA INDEX NAME)



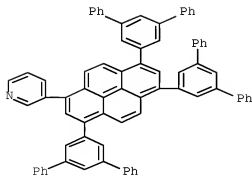
CAS Registry Number  
943643-33-6 CAPLUS

Chemical or Trade Name  
Pyridine, 3-[3,6,9-tris(4-methylphenyl)-1-pyrenyl]- (CA INDEX NAME)



CAS Registry Number  
943643-34-7 CAPLUS

Chemical or Trade Name  
Pyridine, 3-[3,6,9-tris(4-methylphenyl)-1-pyrenyl]- (CA INDEX NAME)



147130029

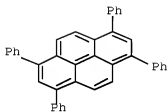
**Title** Ambipolar field-effect transistor of high photoluminescent material tetraphenylpyrene (TPPy) single crystal  
**Author/inventor** Itoh, Satuo; Zukamoto, Takahashi, Tetsuo; Takemoto, Taishi; Yahiro, Masayuki; Adachi, Chihaya; Iwasa, Yoshihiro  
**Patent Assignee/Corporate Source** Institute for Materials Research, Tohoku University, Sendai, 980-8577, Japan  
**Source** Japanese Journal of Applied Physics, Part 2: Letters & Express Letters (2007), 46(20-24), L596-L598 CODEN: JAPLD6  
**Document Type** Journal  
**Language** English

**Abstract**  
An ambipolar field-effect transistor (FET) based on a 1,3,6,8-tetraphenylpyrene (TPPy) single crystal, a highly photoluminescent material, has been successfully fabricated. Several kinds of metal electrodes have been employed to investigate the charge injection characteristics into the single-crystal FET. Hole and electron mobilities of 0.34 and  $7.7 \times 10^{-2} \text{ cm}^2/\text{Vs}$  were achieved using Au and Ca electrodes, resp. The ambipolar characteristics of this device gives a prospect for further development in light-emitting FET operation.

**HR Structure**

CAS Registry Number  
13630-82-9 CASLOG

Chemical or Trade Name (CA INDEX NAME)  
Pyrene, 1,3,6,8-tetraphenyl-



CITING REF COUNT: 0 THERE ARE 0 CAS/LAS RECORDS THAT CITE THIS RECORD  
(0 CITINGS)

L9 ANSWER 30 OF 66 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number

2007 727277 CAPLUS Full-text

Document Number

147 128639

Title

Light-emitting material and light-emitting device

Author/Inventor

Nakano, Seichiro; Nagai, Kazuma; Sugimoto, Kazumasa

Patent Assignee/Corporate Source

Toray Industries, Inc., Japan

Source

JPN Kokai Tokkyo Koho, 2006 CODEN JPOKAF

Document Type

Patent

Language

Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2007169581	A	2007/07/05	JP 2006-38930	2006/02/16

Abstract

The invention relates to a light-emitting material having a pyrene substituted with R1-10 (R1-10 = H, alkyl, cycloalkyl, heterocycloalkyl, alkaryl, alkoaryl, alkenyl, aryl, ether, aryl ether, halo, phosphine oxide and silyl, and adjacent groups may join to form rings, and at least one of R1-10 is an alkyl or cycloalkyl, and at least one has a direct bond with [Ar], Ar = aryl or heteroaryl, n = 1-3, is n = 2 or 3, A may be the same or different).

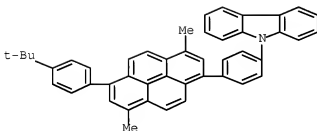
HR Structure

CAS Registry Number

943741-81-5 CAPLUS

Chemical or Trade Name

9H-Carbazole, 2-[4-{6-[4-(1,1-dimethylethyl)phenyl]-3,8-dimethyl-1-pyrrolyl]phenyl]- (CA INDEX NAME)



CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD (1 CITING)

L9 ANSWER 31 OF 66 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number

2007 847634 CAPLUS Full-text

Document Number

147 82568

Title

Novel imidazoquinazoline derivative, process for preparing the same, and organic electronic device using the same

Author/Inventor

Bae, Jae-Doon; Lee, Dong-Hoon; Lee, Dea-Woong; Jang, Jun-Gil; Jeon, Sang-Young

Patent Assignee/Corporate Source

LQ Chem, Ltd., S. Korea

Source

U.S. Pat. Appl. Publ. 156 pp CODEN USBXCO

Document Type

Patent

Language

English

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 20070131929	A1	2007/06/14	US 2006-637174	2006/12/12
KR 2007062920	A	2007/06/18	KR 2006-125937	2006/12/12
KR 864364	B1	2008/01/17		
WO 2007068847	A1	2007/06/21	WO 2006-KR0420	2006/12/13
EP 1960402	A1	2008/08/27	EP 2006-824124	2006/12/13
JP 200916692	T	2009/04/23	JP 2008-539943	2006/12/13
CN 101291935	A	2008/02/02	CN 2006-0003999	2006/04/22

Abstract

The present invention relates to a novel imidazoquinazoline derivative, a process for preparing the imidazoquinazoline derivative, and an organic electronic device using the imidazoquinazoline derivative as hole injecting, hole transporting, electron injecting, electron transporting, or a light emitting material, where the organic electronic device includes an organic light emitting device, and the device according to the present invention exhibits excellent characteristics in efficiency, operating voltage, and stability.

HR Structure

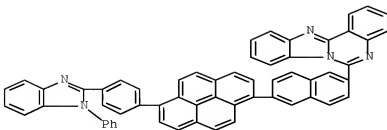
CAS Registry Number

940943-92-4 CAPLUS

Chemical or Trade Name

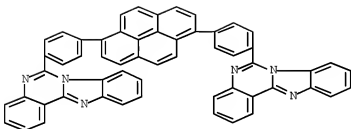
Benzimidazo[1,2-c]quinoxaline, 6-[6-[6-(4-(1-pyrrolyl)-10-benzimidazol-2-yl)phenyl]-2-pyrrolyl]-2-naphthalenyl]- (CA INDEX NAME)





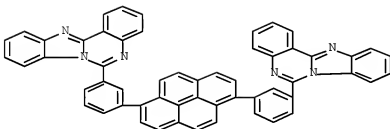
CAS Registry Number  
940961-02-2 CAPLUS

Chemical or Trade Name  
Benimidazo[1,2-c]quinazoline, 6,6'-(1,6-pyrenediylid-4,1-phenylene)bis-  
(CA INDEX NAME)



CAS Registry Number  
940961-03-3 CAPLUS

Chemical or Trade Name  
Benimidazo[1,2-c]quinazoline, 6,6'-(1,6-pyrenediylid-3,1-phenylene)bis-  
(CA INDEX NAME)



08 CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD  
(5 CITINGS)

LE ANSWER 32 OF 88 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number  
2007585952 CAPLUS E613845

Document Number  
14741936

Title  
Luminescent material containing pyrene compound and light-emitting device employing it

Author/Inventor  
Ogino, Takashi, Terenaga, Takashi, Murase, Seikichi  
Patent Assignee/Corporate Source  
Toray Industries, Inc., Japan

Source  
Jpn. Kokai Tokkyo Koho 23pp; CODEN JHOXAF

Document Type  
Patent

Language  
Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2007131723	A	20070531	JP 2005-257560	20051110

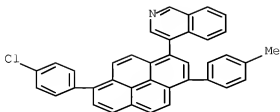
Abstract

The invention relates to a luminescent material and a light-emitting device employing it. The above material consists of the pyrene compound represented by the general formula 1-4, where R1-R15 is selected from the fused rings formed between adjacent substituents, such as hydrogen, the alkyl group, the cycloalkyl group, and the heterocyclic group, R is directly bonded to at least one of R1-R15, Y1-Y5 is selected from nitrogen or carbon atom, when one of Y1-Y5 is nitrogen atom, the substituent of R11-R15 on the nitrogen atom does not exist.

# Hit Structure

CAS Registry Number  
916723-65-5 CAPLUS

Chemical or Trade Name  
Tangunolone, 4'-[9-(4-chlorophenyl)-3-(4-methylphenyl)-1-pyrenyl]- (CA INDEX NAME)



LS ANSWER 33 OF 68 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number  
200759349 CAPLUS Fulltext

Document Number  
146590861

Title  
Luminescent material and light-emitting device employing it

Author/Inventor  
Ogawa, Takashi; Murase, Seiichiro; Nagao, Kazuma

Patent Assignee/Corporate Source  
Toray Industries, Inc., Japan

Source  
Jpn. Kokai Tokkyo Koho, 22pp. CODEN: J00XAF

Document Type  
Patent

Language  
Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO	DATE
JP 2007131722	A	20070531	JP 2005-325759	20051110

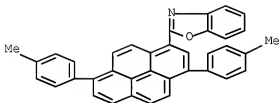
## Abstract

The invention relates to a luminescent material and light-emitting device employing it. The above material consists of anthracene compound represented by 1, where A is the direct bond, the aryl/ene group, etc. and R1-R19 are H, the alkyl group, etc., at least one of R11-R15 is the alkyl group, the aryl group, etc., at least one of R11-R18 and R1-R15 is used for the connection with A.

## Hit Structure

CAS Registry Number  
908021-69-8 CAPLUS

Chemical or Trade Name  
Benzoxazole, 2-[3,8-bis(4-methylphenyl)-1-pyrenyl]- (CA INDEX NAME)



CS CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD  
(1 CITINGS)

IN ANSWER 34 OF 68 CAPLUS COPYRIGHT 2009 ACS on STN  
Accession Number  
2007/032091 CAPLUS [Full-text](#)  
Document Number  
146390110

Title  
Blue light-emitting materials and devices using pyrene compounds

Author/Inventor  
Sugimoto, Kazumori, Murase, Seikichi, Nagao, Kazuma  
Patent Assignee/Corporate Source  
Toray Industries, Inc., Japan

Source  
Jpn. Kokai Tokkyo Koho, 27pp. CODEN J800XAF

Document Type  
Patent

Language  
Japanese  
Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2007077185	A	20070329	JP 2005-263424	20050912

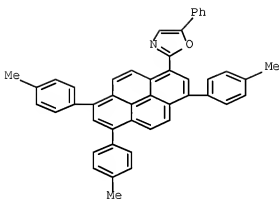
#### Abstract

The materials contain pyrene compounds (I) (R<sup>1</sup>-R<sup>14</sup> = H, alkyl, cycloalkyl, heterocyclic group, alkaryl, cycloalkaryl, alkynyl, alkoxyl, allythio, aryl ether, arylthioether, aryl, heteroaryl, halo, CN, carbonyl, COOH, oxycarbonyl, carbamoyl, amino, phosphine oxide, R<sup>1</sup>-R<sup>14</sup> may form condensed ring with their adjacent groups, :1 of R<sup>1</sup>-R<sup>10</sup> and :1 of R<sup>11</sup>-R<sup>14</sup> = single bond, X<sup>1</sup> = O, S, NR<sup>15</sup>, Y<sup>1</sup>-Y<sup>4</sup> = N, C, :1 of Y<sup>1</sup>-Y<sup>4</sup> = N and :1 of Y<sup>1</sup>-Y<sup>4</sup> = C, R<sup>15</sup> = H, alkyl, cycloalkyl, heterocyclic group, alkaryl, cycloalkaryl, alkynyl, aryl, heteroaryl, CN, carbonyl, COOH, oxycarbonyl, carbamoyl). The devices having light-emitting layers between anodes and cathodes and emitting light by elec. energy contain the materials. The devices show high luminescent efficiency.

#### HN Structure

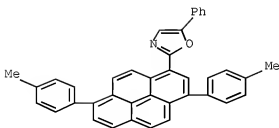
CAS Registry Number  
908021-37-4 CAPLUS

Chemical or Trade Name  
Quinoline, 5-phenyl-2-(3,6,8-trisubstituted-methylphenyl)-1-pyrenyl]- (CA INDEX NAME)



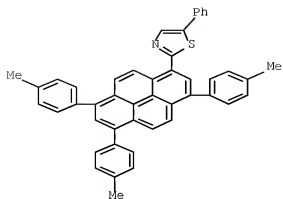
CAS Registry Number  
908021-61-0 CAPLUS

Chemical or Trade Name  
Quinoline, 2-(3,6,8-trisubstituted-methylphenyl)-1-pyrenyl]-5-phenyl]- (CA INDEX NAME)



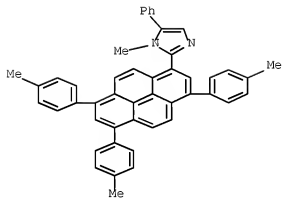
CAS Registry Number  
908021-62-1 CAPLUS

Chemical or Trade Name  
Thiazole, 5-phenyl-2-(3,6,8-trisubstituted-methylphenyl)-1-pyrenyl]- (CA INDEX NAME)



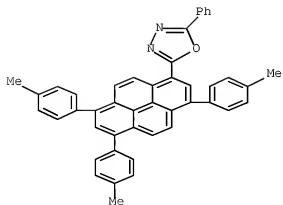
CAS Registry Number  
90821-63-2 CNF155

Chemical or Trade Name  
1H-Thiadiazole, 5-phenyl-2-[3,6,8-tris(4-methylphenyl)-1-pyrenyl]-  
(CA INDEX NAME)



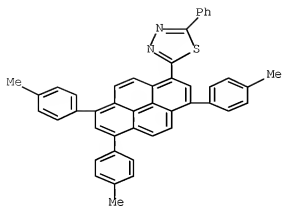
CAS Registry Number  
90821-64-3 CNF173

Chemical or Trade Name  
1,3,6-Diazadiazole, 2-phenyl-5-[3,6,8-tris(4-methylphenyl)-1-pyrenyl]-  
(CA INDEX NAME)



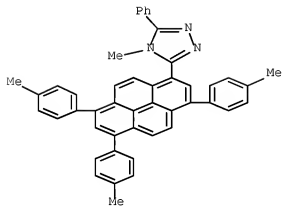
CAS Registry Number  
908211-65-9 CAS#

Chemical or Trade Name  
1,7,4-Triazasole, 2-phenyl-5-[3,6,8-tris(4-methylphenyl)-1-pyrenyl]- (CA INDEX NAME)



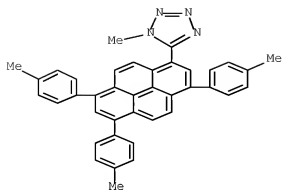
CAS Registry Number  
908211-66-5 CAS#

Chemical or Trade Name  
4B-1,1,4-Triazole, 6-methyl-3-phenyl-5-[3,6,8-tris(4-methylphenyl)-1-pyrenyl]- (CA INDEX NAME)



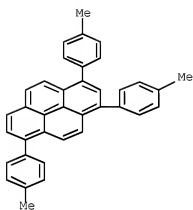
CAS Registry Number  
910889-30-5 CAS#

Chemical or Trade Name  
1B-Tetrazole, 1-methyl-5-[3,6,8-tris(4-methylphenyl)-3-pyrenyl]- (CA INDEX NAME)



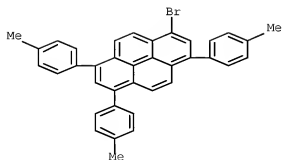
CAS Registry Number  
90021-84-7 CAPLUS

Chemical or Trade Name  
Pyrene, 1,3,6-tris(4-methylphenyl)- (CA INDEX NAME)



CAS Registry Number  
930090-33-6 CAPLUS

Chemical or Trade Name  
Pyrene, 1-beano-3,6,9-tris(4-methylphenyl)- (CA INDEX NAME)



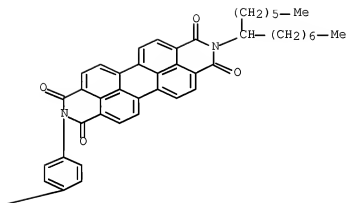
Author/Inventor  
 Bullock, Joseph E., Kelley, Richard I., Wozniowski, Michael R.  
 Patent Assignee/Corporate Source  
 Department of Chemistry and International Institute for Nanotechnology, Northwestern University, Evanston, IL, 60208-3113, USA  
 Source  
 PRAISE Preprints (2007), 56, 805-806 CODEN: PPMRAR, ISSN: 1550-6703  
 Document Type  
 Journal, (computer optical disk)  
 Language  
 English  
 Abstract

Perylene-3,4,9,10-bis(dicarboximide) (PDI) derivatives have attracted significant interest as active materials for light harvesting, photovoltaics, and studies of basic photoinduced charge and energy transfer processes. Recently, constant PDI-based electron donor-acceptor systems that self-assemble to form larger structures for energy and electron transport were demonstrated. The present study describes photoinduced electron transfer in a system in which four PDI electron acceptors are covalently attached to a central pyrene (Py) electron donor at its 1,3,6, and 8 positions (Py-PDI4). The terminal ends of each PDI is functionalized with a long branched aliphatic hydrocarbon tail to ensure good solubility. Covalently above the Py-PDI4 building blocks to self-assemble into structures in which the tails are arranged in a critical configuration (H-type aggregate). Photoexcitation of (Py-PDI4) results in rapid electron transfer from Py to the lowest excited singlet state of an adjacent PDI. The transient spectra show evidence of charge sharing amongst the stacked PDI moieties in (Py-PDI4).

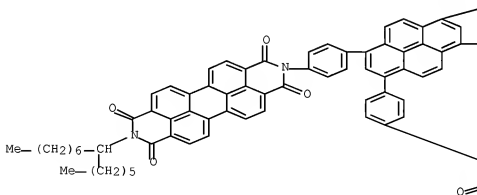
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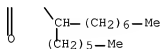
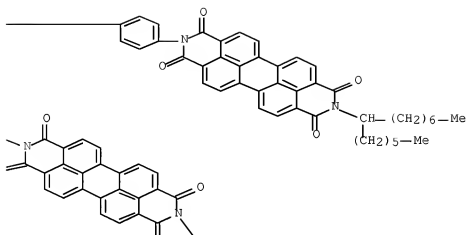
Chemical Registry Number  
 102544-68-7 CASREX

Chemical or Trade Name  
 Anthracene[2,1,3-b:cd'ef,6,7,10-d'ef']bis[carboximide]-1,3,6,10-(2R,5R)-tetraene,  
 2,2',3',3''',2''''-[[2,3,6,8-pyrenetetrayltetrakis-4,5-phenylene]tetrakis[9-(1-  
 hexyloxy)]- (CA: 102544-68-7)



PAGE 2-A





05 CITING REF COUNT: 2 THERE ARE 2 CAPLUS RECORDS THAT CITE THIS RECORD  
(2 CITINGS)

19 ANSWER 36 OF 66 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number  
2007284229 CAPLUS Eui2902  
Document Number  
146347117

Title  
Light-emitting device material and light-emitting device

Author/Inventor  
Munaka, Seizhiro, Nagao, Kazumasa, Sugimoto, Kazunori, Ishigaki, Takeshi, Ogawa, Takakuni  
Patent Assignee/Corporate Source  
Toray Industries, Inc., Japan

Source  
PCT Int. Appl. 112pp. CODEN PXXXX2

Document Type  
Patent  
Language  
Japanese  
Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
IWO 2007029798	A1	20070315	WO 2006-UP317810	20060908
EP 1942171	A1	20080709	EP 2006-797666	20060908
CN 101288221	A	20080903	CN 2006-90032963	20080907
US 20090096356	A1	20090416	US 2008-991461	20080926
KR 2008058991	A	20080619	KR 2008-708341	20080407

#### Abstract

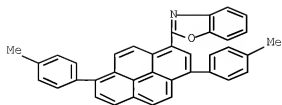
Disclosed is a light-emitting device material containing a pyrene compound represented by [R1-R18 = H, alkyl, cycloalkyl, heterocyclic, alkenyl, cycloalkenyl, alkynyl, alkoxy, alkylthio, aryl ether, aryl thioether, aryl, heteroaryl, halogen, carbonyl, carbonyl, oxycarbonyl, carbamoyl, amine, phosphine oxide, and a silyl, adjacent substituents among R1-R18 may combine together to form a ring, n = integer 1-3, X = -O-, -S- and -NR19-, R19 = H, alkyl, cycloalkyl, heterocyclic, aryl, cycloalkenyl, alkynyl, aryl, heteroaryl, and amino, R19 may form a ring together with R1 or R19], and Y = angle bond, arylene and heteroarylene, and n of R1-R18 and one of R1-R19 are used for linkage with Y]. This light-emitting device material enables to provide a light-emitting device having high efficiency and excellent durability. Also disclosed is a light-emitting device using such a light-emitting device material.

#### HI Structure

CAS Registry Number  
908011-69-6 CAPLUS

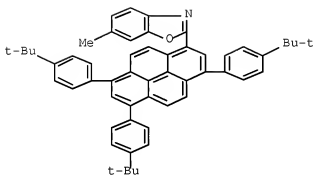
Chemical or Trade Name  
Benzosilole, 2-[3,5-bis(4-methylphenyl)-1-pyrenyl]- (CA 3506X NAME)





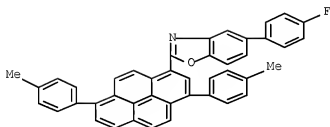
CAS Registry Number  
761021-74-5 CMLLOS

Chemical or Trade Name  
Benzoazole, 6-methyl-2-[(5,6,8-tris[4-(1,1-dimethylethyl)phenyl]-1-pyrenyl]- (CA INDEX NAME)



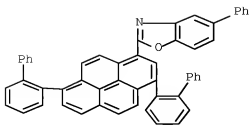
CAS Registry Number  
929100-81-2 CMLLOS

Chemical or Trade Name  
Benzoazole, 2-[(3,8-bis[4-(4-tert-butylphenyl)-1-pyrenyl]-5-[4-fluorophenyl])- (CA INDEX NAME)



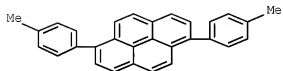
CAS Registry Number  
929100-58-3 CMLLOS

Chemical or Trade Name  
Benzoazole, 2-[(3,8-bis[1,1'-biphenyl]-2-yl)-1-pyrenyl]-5-phenyl- (CA INDEX NAME)



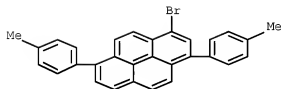
CAS Registry Number  
908021-87-0 CAS1/05

Chemical or Trade Name  
Pyrene, 1,6-bis(4-methylphenyl)- (CA INDEX NAME)



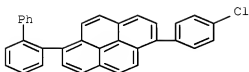
CAS Registry Number  
908021-88-1 CAS1/05

Chemical or Trade Name  
Pyrene, 3-bromo-1,6-bis(4-methylphenyl)- (CA INDEX NAME)



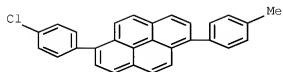
CAS Registry Number  
929099-51-4 CAS1/05

Chemical or Trade Name  
Pyrene, 1-(4-chlorophenyl)-2-yl-6-(4-methylphenyl)- (CA INDEX NAME)



CAS Registry Number  
929099-53-6 CAS1/05

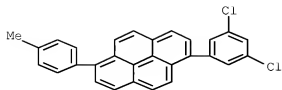
Chemical or Trade Name  
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CAS Registry Number  
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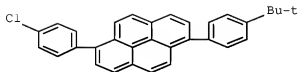
Chemical or Trade Name

Pyrene, 1-(3,5-dichlorophenyl)-6-(4-methylphenyl)- (CA INDEX NAME)



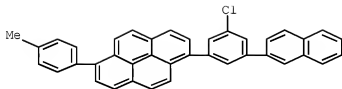
CAS Registry Number  
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Chemical or Trade Name  
Pyrene, 1-(4-chlorophenyl)-6-[4-1,3-dimethylethylphenyl]- (CA INDEX NAME)



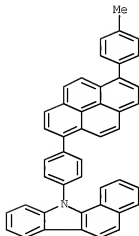
CAS Registry Number  
929099-64-9 CAFL/OS

Chemical or Trade Name  
Pyrene, 1-(3-chloro-5-(2-naphthalenyl)phenyl)-6-(4-methylphenyl)- (CA INDEX NAME)



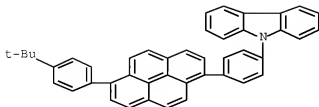
CAS Registry Number  
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Chemical or Trade Name  
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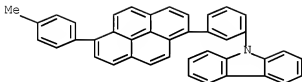
CAS Registry Number  
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Chemical or Trade Name  
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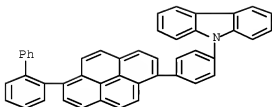
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Chemical or Trade Name  
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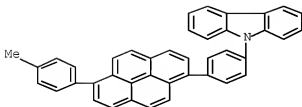
CAS Registry Number  
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Chemical or Trade Name  
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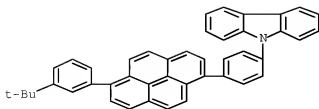
CAS Registry Number  
929099-54-7 CAS/LUS

Chemical or Trade Name  
9B-Carbazole, 9-[4'-[6-(4-methylphenyl)-1-pyrenyl]phenyl]- (CA INDEX NAME)



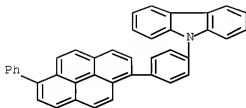
CAS Registry Number  
929099-55-8 CAS/LUS

Chemical or Trade Name  
9B-Carbazole, 9-[4'-[6-[3-[1,1-dimethylethyl]phenyl]-1-pyrenyl]phenyl]- (CA INDEX NAME)



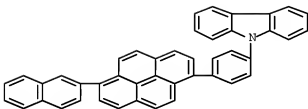
CAS Registry Number  
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Chemical or Trade Name  
9B-Carbazole, 9-[4-(4-phenyl-1-pyrenyl)phenyl]- (CA INDEX NAME)



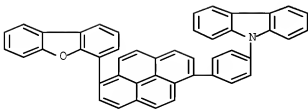
CAS Registry Number  
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Chemical or Trade Name  
9B-Carbazole, 9-[4-(2-naphthalenyl)-1-pyrenyl]phenyl]- (CA INDEX NAME)



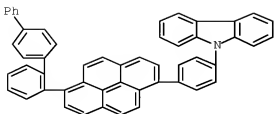
CAS Registry Number  
929099-58-1 CAPLUS

Chemical or Trade Name  
9B-Carbazole, 9-[4-(6-(4-dibenzofuranyl)-1-pyrenyl)phenyl]- (CA INDEX NAME)



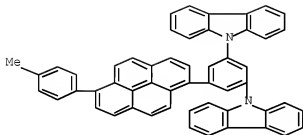
CAS Registry Number  
929099-33-2 CAPLUS

Chemical or Trade Name  
9B-Carbazole, 9-[4-(6-[1,1'-(4,4'-terphenyl)-2-yl]-1-pyrenyl)phenyl]- (CA INDEX NAME)



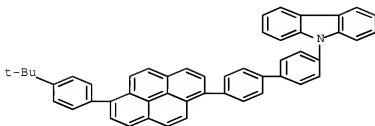
CAS Registry Number  
929099-62-6 CAS1/0

Chemical or Trade Name  
9B-Casbazole, 5-[3'-(5-(4-methylphenyl)-1-pyrenyl)-2,3-phenylene]bis-  
(CA 12086 NAME)



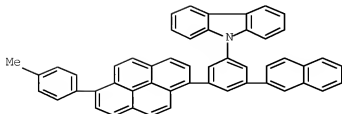
CAS Registry Number  
929099-63-8 CAS1/0

Chemical or Trade Name  
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biphenyl-4-yl)]- (CA 12086 NAME)



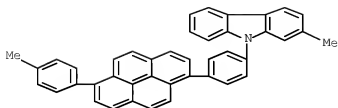
CAS Registry Number  
929099-65-0 CAS1/0

Chemical or Trade Name  
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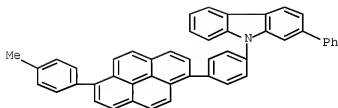
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Chemical or Trade Name  
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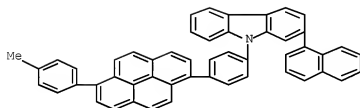
CAS Registry Number  
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Chemical or Trade Name  
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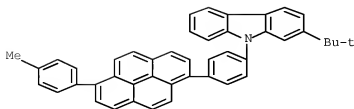
CAS Registry Number  
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Chemical or Trade Name  
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CAS Registry Number  
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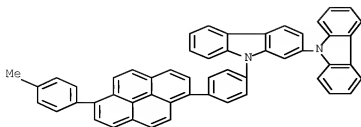
Chemical or Trade Name  
 9H-Carbazole, 9-[4-{6-(4-methylphenyl)-3-[4-{6-(4-methylphenyl)-1-pyrenyl}phenyl]-2-phenyl}phenyl]- (CA INDEX NAME)



CAS Registry Number  
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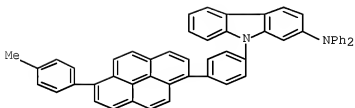
Chemical or Trade Name

2,9'-Bi[9H-cacbazole, 9-[4-[6-(4-methylphenyl)-1-pyrenyl]phenyl]- - (CA  
 INDEX NAME)



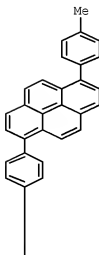
CAS Registry Number  
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Chemical or Trade Name  
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 diphenyl- (CA INDEX NAME)

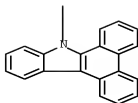


CAS Registry Number  
 929099-15-2 (CAFL/9)

Chemical or Trade Name  
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 INDEX NAME)

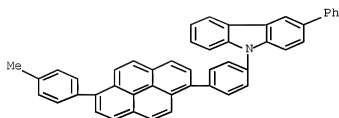






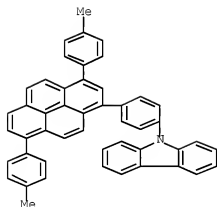
CAS Registry Number  
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Chemical or Trade Name  
9H-Fluorene, 9-[(4'-[5'-(4-methylphenyl)-1-pyrenyl]phenyl)-3-phenyl]- (CA INDEX NAME)



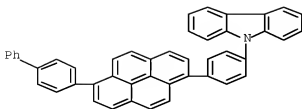
CAS Registry Number  
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Chemical or Trade Name  
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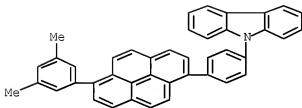
CAS Registry Number  
92909-96-7 CAPLIS

Chemical or Trade Name  
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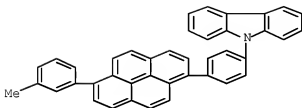
CAS Registry Number  
92909-97-9 CARLOS

Chemical or Trade Name  
96-Carbazole, 9-[4'-(6'-(3,5-dimethylphenyl)-2-pyrenyl)phenyl]- (CA INDEX NAME)



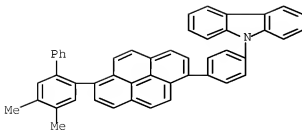
CAS Registry Number  
92909-98-9 CARLOS

Chemical or Trade Name  
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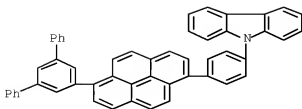
CAS Registry Number  
92909-99-0 CARLOS

Chemical or Trade Name  
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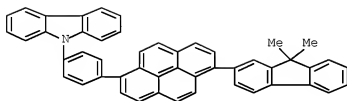
CAS Registry Number  
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Chemical or Trade Name  
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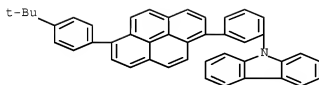
CAS Registry Number  
929100-21-6 CAFL/IS

Chemical or Trade Name  
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(CA INDEX NAME)



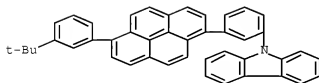
CAS Registry Number  
929100-02-7 CAFL/IS

Chemical or Trade Name  
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(CA INDEX NAME)



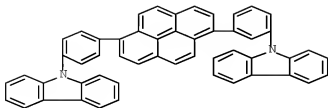
CAS Registry Number  
929100-03-0 CAFL/IS

Chemical or Trade Name  
98-Carbazole, 5-[3-(4-(tert-butyl)phenyl)-1-pyrenylphenyl]-1-pyrenylphenyl-  
(CA INDEX NAME)



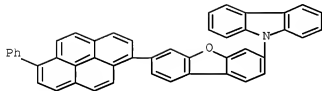
CAS Registry Number  
929100-06-1 CAFL/IS

Chemical or Trade Name  
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(CA INDEX NAME)



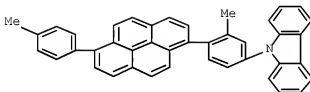
CAS Registry Number  
929100-97-2 CML10S

Chemical or Trade Name  
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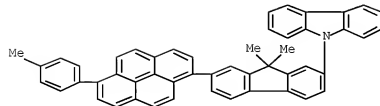
CAS Registry Number  
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Chemical or Trade Name  
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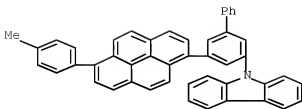
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Chemical or Trade Name  
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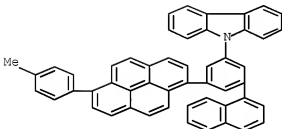
CAS Registry Number  
929100-10-7 CML10S

Chemical or Trade Name  
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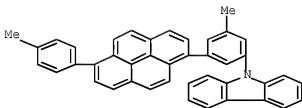
CAS Registry Number  
929100-11-9 CARLOS

Chemical or Trade Name  
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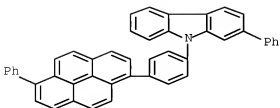
CAS Registry Number  
929100-12-9 CARLOS

Chemical or Trade Name  
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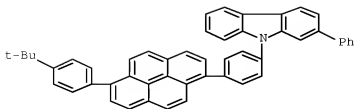
CAS Registry Number  
929100-13-0 CARLOS

Chemical or Trade Name  
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CAS Registry Number  
929100-14-1 CARLOS

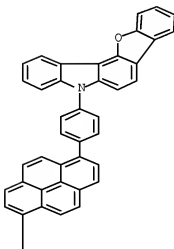
Chemical or Trade Name  
9H-Carbazole, 9-[4-(1,1,2-dimethylethyl)phenyl]-1-pyrenyl]phenyl]-2-phenyl]- (CA INDEX NAME)



CAS Registry Number  
92906-15-2 CASREG

Chemical or Trade Name  
5-[4-{6-(4-tert-butylphenyl)-1-pyrenyl}phenyl]-  
(CA INDEX NAME)

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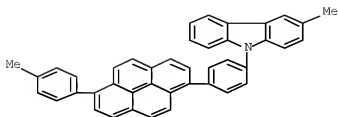


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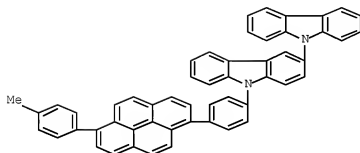
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Chemical or Trade Name  
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(CA INDEX NAME)



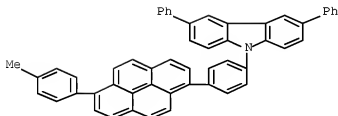
CAS Registry Number  
929100-17-8 CASI/IS

Chemical or Trade Name  
3,9'-di-(4-methylphenyl)-5'-[4-(4-methylphenyl)-1-pyrenyl]phenyl-1H-  
[INDEX NAME]



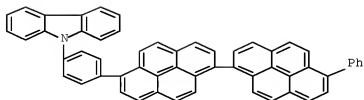
CAS Registry Number  
929100-18-5 CASI/IS

Chemical or Trade Name  
9H-Carbazole, 9'-[4-(4-methylphenyl)-1-pyrenyl]phenyl-3,6-diphenyl-  
(CA INDEX NAME)



CAS Registry Number  
929100-19-6 CASI/IS

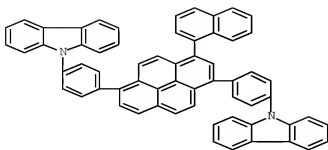
Chemical or Trade Name  
9H-Carbazole, 9'-[4-(4-methylphenyl)-1-pyrenyl]phenyl-6-ylphenyl-  
(CA INDEX NAME)



CAS Registry Number  
929100-37-0 CASI/IS

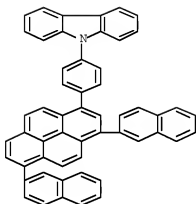
Chemical or Trade Name  
9H-Carbazole, 9,9'-[3-(1-naphthyl)phenyl]-1,6-pyrenediyl]di-4,1-  
(CA INDEX NAME)

phenylene]bis- (CA INDEX NAME)



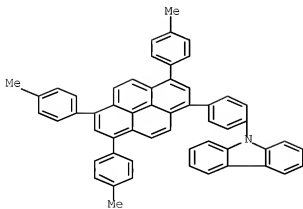
CAS Registry Number  
929100-38-9 CAPI/03

Chemical or Trade Name  
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CAS Registry Number  
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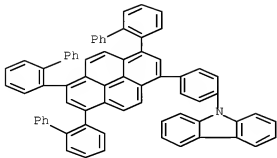
Chemical or Trade Name  
9H-Carbazole, 9-[4-(3,6,8-tris(4-methylphenyl)-1-pyrenyl)phenyl]- (CA INDEX NAME)



CAS Registry Number  
929100-40-3 CAPI/03

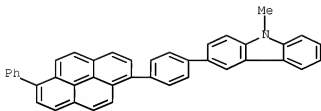


Chemical or Trade Name  
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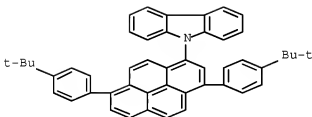
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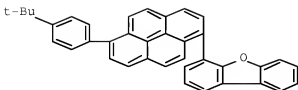
CAS Registry Number  
 929100-43-6 CAS#

Chemical or Trade Name  
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CAS Registry Number  
 929100-43-0 CAS#

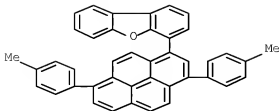
Chemical or Trade Name  
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CAS Registry Number

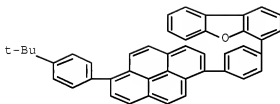
929100-49-2 CAPLUS

Chemical or Trade Name  
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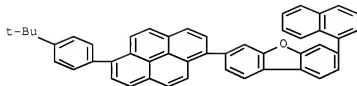
CAS Registry Number  
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Chemical or Trade Name  
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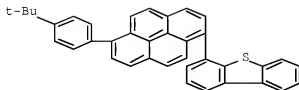
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Chemical or Trade Name  
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CAS Registry Number  
929100-56-1 CAPLUS

Chemical or Trade Name  
Dibenzothiophene, 4-[6-[4-(3,3-dimethylethyl)phenyl]-1-pyrenyl]- (CA INDEX NAME)



ON CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD  
(1 CITINGS)

146 389986

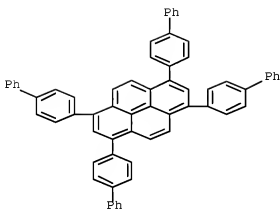
**Title** Charge-carrier injection characteristics at organic/organic heterojunction interfaces in organic light-emitting diodes  
**Author/Inventor** Matsushima, Toshinori; Goushi, Kenichi; Adachi, Chihaya  
**Patent Assignee/Corporate Source**  
**Source** Core Research for Evolutional Science and Technology Program (CREST), Japan Science and Technology Agency (JST), 1-32-12 Higashi, Shibuya, Tokyo, 150-8011, Japan  
**Document Type** Chemical Physics Letters (2007), 435(4-6), 327-330 CODEN CHPLUC; ESN 0009-2614  
**Journal**  
**Language** English  
**Abstract**

Organic light-emitting diodes (OLEDs) having various guest molecules doped in an organic host matrix layer are fabricated [the OLED structure is anode/hole-transporting layer (HTL)/guest-host emitting layer/hole-blocking layer/electron-transporting layer/cathode], and the dependence of c-d-voltage (J-V) characteristics of the OLEDs on HOMO levels of guest molecules are investigated. From the J-V characteristics of these OLEDs, we find two important results: (1) J-V characteristics of the OLEDs are controlled by the direct hole injection from the neighboring HTL to guest molecules, and (2) HOMO level alignment between the HTL and guest molecules provides efficient hole injection at this interface.

**HR Structure**

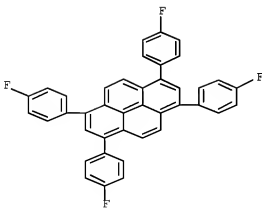
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Chemical or Trade Name  
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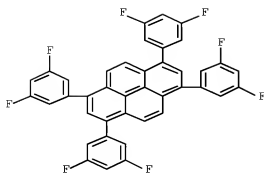
CAS Registry Number  
835870-24-5 CAPLUS

Chemical or Trade Name  
Pyrene, 1,3,6,8-tetraakis(4-fluorophenyl)- (CA INDEX NAME)



CAS Registry Number  
932391-93-6 CAPLUS

Chemical or Trade Name  
Pyrene, 1,3,6,8-tetrakis[3,5-di(4-fluorophenyl)]- (CA INDEX NAME)



05 .CITING REF COUNT: 9 THERE ARE 9 CAPLUS RECORDS THAT CITE THIS RECORD  
(9 CITINGS)

Accession Number  
2007-23414 CAPLUS [Full Text](#)  
Document Number  
146121699

Title  
Process for preparation of pyrene derivatives for use in organic electroluminescence devices

Author/Inventor  
No. Mitsunori, Kubota, Mineyuki  
Patent Assignee/Corporate Source  
Idemitsu Kosan Co., Ltd., Japan

Source  
PCT Int. Appl., 62pp. CODEN: PXXXDE

Document Type  
Patent

Language  
Japanese

PATENT NO.	KFIG	DATE	APPLICATION NO.	DATE
W/O 2007004364	A1	20070111	W/O 2006-JP310194	20060323
JP 2007015961	A	20070125	JP 2005-197765	20050706
EP 1905754	A1	20080402	EP 2006-746728	20060823
US 20080124571	A1	20080529	US 2007-928613	20071029
US 7585574	B2	20090906		
CN 101213161	A	20080702	CN 2006-80624361	20080103
KR 2008027392	A	20080326	KR 2006-706282	20060104
IN 2006CN02622	A	20081128	IN 2006-CN622	20060206

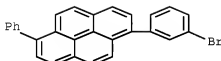
#### Abstract

This invention pertains to a method for producing pyrene derivatives via coupling reaction, for the use in organic electroluminescence devices comprising a neg. electrode and a pos. electrode and, interposed there between, one or two or more organic thin film layers including at least a light-emitting layer, wherein at least one of the organic thin film layers contains the pyrene derivative alone or as a component of mixture. For example, the compound (I) was prepared in a three-step synthesis starting from pyrene-1-boronic acid and 3-bromo-1-nitrobenzene in good yield. Thus, there is provided an organic electroluminescence device of high luminous efficiency capable of prolonged blue light emission.

#### Hit Structure

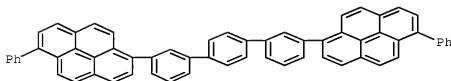
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Chemical or Trade Name  
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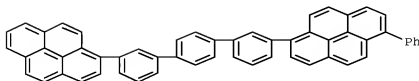
CAS Registry Number  
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Chemical or Trade Name  
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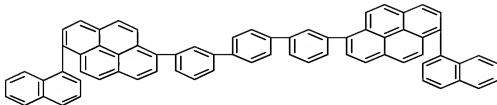
CAS Registry Number  
918654-68-9 CAPLUS

Chemical or Trade Name  
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CAS Registry Number  
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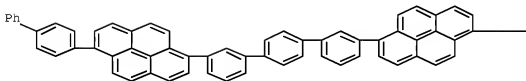
Chemical or Trade Name  
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 (CA INDEX NAME)



CAS Registry Number  
 91854-19-3 CAS100

Chemical or Trade Name  
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 (CA INDEX NAME)

PAGE 1-A



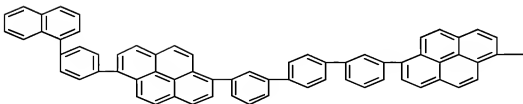
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CAS Registry Number  
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Chemical or Trade Name  
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 (CA INDEX NAME)

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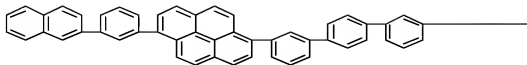
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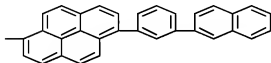
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Chemical or Trade Name  
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PAGE 1-A

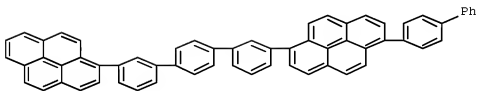


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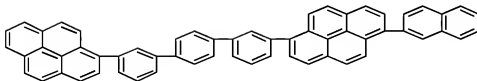
CAS Registry Number  
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Chemical or Trade Name  
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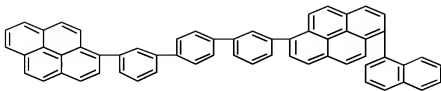
CAS Registry Number  
91854-14-7 CAS103

Chemical or Trade Name  
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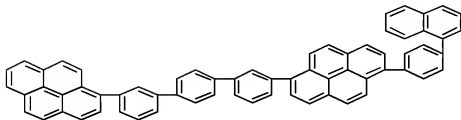
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91854-15-8 CAS103

Chemical or Trade Name  
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CAS Registry Number  
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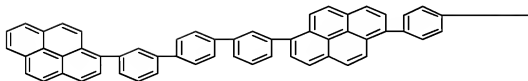
Chemical or Trade Name  
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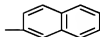
CAS Registry Number  
918654-10-0 CAS109

Chemical or Trade Name  
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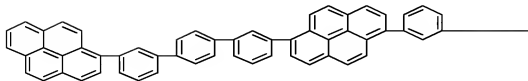
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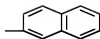
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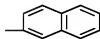
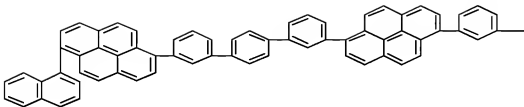






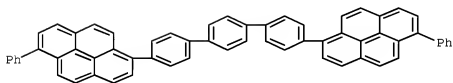
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Chemical or Trade Name  
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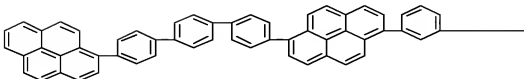
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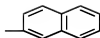
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GAS Registry Number  
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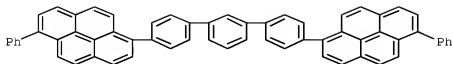
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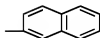
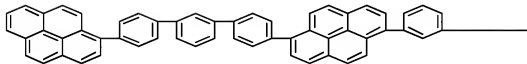
CAS Registry Number  
918654-83-5 CASLIS

Chemical or Trade Name  
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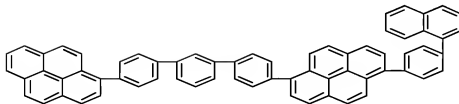
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Chemical or Trade Name  
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CAS Registry Number  
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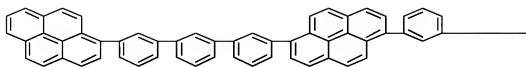
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CAS Registry Number  
918654-87-2 CASLIS

Chemical or Trade Name  
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PAGE 1-A



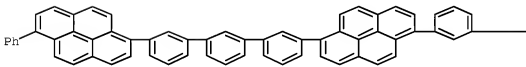
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CAS Registry Number  
91854-88-3 CAPLUS

Chemical or Trade Name  
Pyrene, 1-[1,3-bis(4-phenylphenyl)phenyl]-4-[3''',4'-biphenyl-1-  
pyrenyl][1,2'-b,3'',4'-terphenyl]-5-yl]- (CA INDEX NAME)

PAGE 1-A

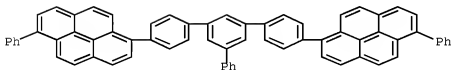


PAGE 1-B



CAS Registry Number  
91854-92-9 CAPLUS

Chemical or Trade Name  
Pyrene, 2,2''-[3''',4'-biphenyl-1,2'-b,3'',4'-terphenyl]-6,4''-diylbis[6-phenyl-  
(CA INDEX NAME)]



OF CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD  
(1 CITATION)

19 ANSWER 39 OF 68 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number  
0066 193991 CAPLUS [Full-text](#)  
Document Number  
14681708

Title  
Process for preparation of dibenzofluorene derivatives for organic electroluminescent devices

Author/Inventor  
Ito, Minoru; Kubota, Mineyuki; Hosokawa, Chieho

Patent Assignee/Corporate Source  
Idemitsu Kosan Co., Ltd., Japan

Source  
PCT Int. Appl. 86pp CODEN: P0XXDE

Document Type  
Patent

Language  
Japanese

Patent Information

PATENT NO	KIND	DATE	APPLICATION NO	DATE
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WO 2006132210	A1	20061228	WO 2006JP307927	20060414
EP 1894923	A1	20060305	EP 2006-731873	20060414
US 20060166594	A1	20060710	US 2007-924964	20071026
KR 2006031872	A	20060411	KR 2007-729977	20071221
CN 101293156	A	20060716	CN 2006-8022526	20071221
IN 2007CN05945	A	20060627	IN 2007-CN0945	20071224

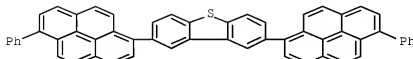
#### Abstract

This invention pertains to a method for producing dibenzosilolephene derivs. Further, there is provided an organic electroluminescent device comprising a neg. electrode and a pos. electrode and, interposed there between, organic thin-film layers of one or more layers including at least a light-emitting layer, wherein at least one of the organic thin-film layers contains any of the above benzenosilolephene derivs, alone or as a component of mixture. Consequently, there are provided an organic electroluminescent device exhibiting high luminous efficiency and realizing blue light emission of prolonged life and novel dibenzosilolephene derivs. for realization of the same

#### HN Structure

CAS Registry Number  
517386-41-3 CASREG

Chemical or Trade Name  
bisbenzothienosilolephene, 2,2'-(5,6-bis(6-phenyl-1-pyrenyl))- (CA INDEX NAME)



08 CITING REF COUNT: 3 THERE ARE 3 CAS/US RECORDS THAT CITE THIS RECORD (3 CITINGS)

#### L9 ANSWER 40 OF 66 CAPLUS COPYRIGHT 2006 ACS on STN

Accession Number  
20061173484 CAPLUS Fulltext  
Document Number  
14548535

#### Title

Organic electronic devices and boronic acid and boronic acid derivatives used therein

#### Author/Inventor

Shoessi, Philipp; Breuning, Esther; Buesing, Arne; Parham, Arne; Heil, Holger; Vestberg, Horst

#### Patent Assignee/Corporate Source

Merk Patent G.m.b.H., Germany

#### Source

PCT Int. Appl., 159pp. CODEN: PXXXX2

#### Document Type

Patent

#### Language

German

#### Patent Information

PATENT NO	KIND	DATE	APPLICATION NO	DATE
WO 2006117052	A1	20061109	WO 2006-EP91150	20060406
EP 1888756	A1	20060220	EP 2006-72495	20060406
JP 2006541417	T	20061120	JP 2006-506318	20060406
US 20060134384	A1	20060528	US 2007-912939	20071029
CN 101171320	A	20060430	CN 2006-80015401	20071109
KR 2006012387	A	20060211	KR 2007-728263	20071209

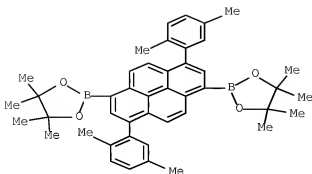
#### Abstract

Organic electronic devices (e.g., organic or polymer light-emitting diodes, organic field-effect transistors, organic integrated circuits, organic thin-film transistors, organic light-emitting transistors, organic solar cells, organic field-effect transistors, organic light-emitting cells, organic photoresistors, and organic laser diodes) are described which comprise a) organic film including a) aromatic boronic acid or boronic acid derivative compound. The compounds may serve as fluorescent or phosphorescent dopants, as hole-transporting materials, or as electron-transporting materials. Organosilicon, dendritic, and polymeric compounds of boronic acid or boronic acid derivative compounds are also described. Methods for synthesizing polymers including boronic acid groups are described which entail polycondensation of arilic or aromatic boronic acids, boronic acid derivatives, or similar higher substituted compounds with an aromatic boronic acid or higher boronic acid or by reaction of an aromatic compound that includes 2-hydroxy, phenyl, or silyl groups as well as a boronic acid group.

#### HN Structure

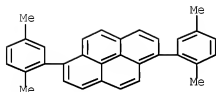
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514306-91-5 CASREG

Chemical or Trade Name  
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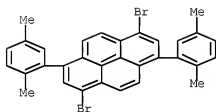
CAS Registry Number  
914306-92-6 CAPLUS

Chemical or Trade Name  
Fluorene, 1,6-bis(2,5-dimethylphenyl)- (CA INDEX NAME)



CAS Registry Number  
914306-93-7 CAPLUS

Chemical or Trade Name  
Fluorene, 1,6-dibromo-3,9-bis(2,5-dimethylphenyl)- (CA INDEX NAME)



CS CITING REF COUNT: 3 THERE ARE 3 CAPLUS RECORDS THAT CITE THIS RECORD  
(6 CITINGS)

19 ANSWER 41 OF 68 CAPLUS COPYRIGHT 2009 ACS on STN  
Accession Number

20061157695 CAPLUS [Full Text](#)

Document Number  
148471240

Title Preparation of aromatic amine derivatives and organic electroluminescent device containing them

Author/Inventor  
Hasekawa, Chisako; Kawamura, Masahiro; Funahashi, Masakazu

Patent Assignee/Corporate Source  
Kuremsu Kasei Co., Ltd., Japan

Source  
PCT Int. Appl. 43pp CODEN PIXXDZ

Document Type  
Patent

Language  
Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2006114949	A1	20061102	WO 2006JP200607	20060314
JP 2006298793	A	20061102	JP 2005-119880	20050418
US 20060251925	A1	20061109	US 2006-378332	20060320

KR 2007120545	A	20071224	KR 2007-723949	20071018
CN 101163663	A	20080416	CN 2006-00012999	20071018

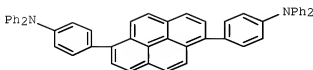
# Abstract

The title compds. I [A1, A2, R1 = H, (un)substituted alkyl, (un)substituted aryl, etc., m, n = 0-50, when m or n ≥ 2, substituents A1, A2 may be the same or different and may combine to form (un)saturated rings, x = 1-4, when x ≥ 2, the structures within the brackets may be the same or different, q = 0-5, when q ≥ 2, substituents R1 may be the same or different, X1 = (un)substituted arylene] are prepared. Thus, the title compound I was prepared from 1,4-dibromopyrene and 4-(diphenylamino)phenylboronic acid in presence of tetrakis(triphenylphosphonium)iodide. An organic-electroluminescent element containing I showed high light emission luminance and excellent high-temperature storage stability.

## HE Structure

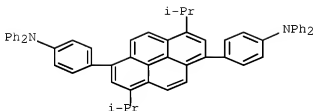
CAS Registry Number  
913971-58-9 CAPLOS

Chemical or Trade Name  
Benzenamine, 4,4'-(1,6-pyrenediyl)bis[N,N-diphenyl]- (CA INDEX NAME)



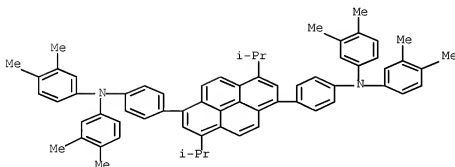
CAS Registry Number  
913971-59-0 CAPLOS

Chemical or Trade Name  
Benzenamine, 4,4'-(3,8-bis[1-methylethyl]-1,6-pyrenediyl)bis[N,N-diphenyl]- (CA INDEX NAME)



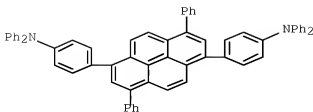
CAS Registry Number  
913971-60-3 CAPLOS

Chemical or Trade Name  
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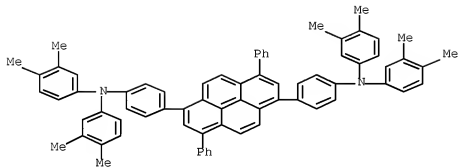
CAS Registry Number  
913971-61-4 CAPLOS

Chemical or Trade Name  
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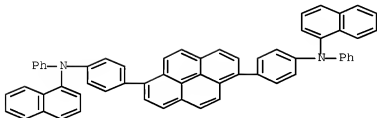
CAS Registry Number  
913971-62-5 CAS1/05

Chemical or Trade Name  
Dibenzocine, 4,4'-(1,6-pyrenediyl)bis[N,N'-bis(3,4-  
dimethylphenyl)- (CA INDEX NAME)



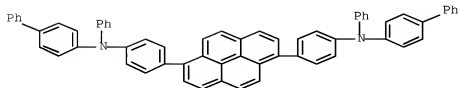
CAS Registry Number  
913971-64-6 CAS1/05

Chemical or Trade Name  
1-Naphthalenecarboxylic acid, N,N'-(1,6-pyrenediyl)-4,1-phenylenebis[N-phenyl-  
(9CI) (CA INDEX NAME)



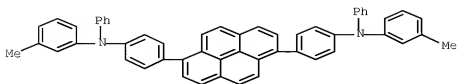
CAS Registry Number  
913971-64-7 CAS1/05

Chemical or Trade Name  
[2,2'-Biphenyl]-5,5'-dicarboxylic acid, N,N'-(1,6-pyrenediyl)-4,1-phenylenebis[N-phenyl-  
(CA INDEX NAME)



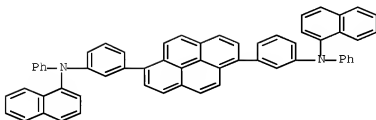
CAS Registry Number  
913971-65-0 CAS1/05

Chemical or Trade Name  
Benzenamine, 4,4'-(1,6-pyrenediyl)bis[N-(3-methylphenyl)-N-phenyl]- (CA INDEX NAME)



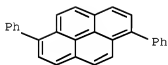
CAS Registry Number  
913977-66-9 (CPL/US)

Chemical or Trade Name  
1-Naphthalenamine, 8,8'-(1,6-pyrenediyl)di-3,1-phenylene)bis[N-phenyl]- (SC1) (CA INDEX NAME)



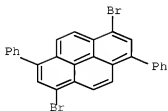
CAS Registry Number  
55509-75-1 (CPL/US)

Chemical or Trade Name  
Pyrene, 1,6-diphenyl- (CA INDEX NAME)



CAS Registry Number  
764657-28-5 (CPL/US)

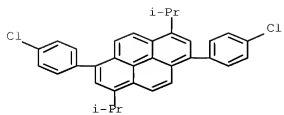
Chemical or Trade Name  
Pyrene, 1,6-dibromo-3,8-diphenyl- (CA INDEX NAME)



CAS Registry Number  
913977-56-7 (CPL/US)

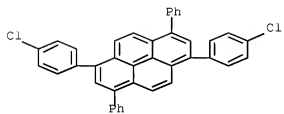
Chemical or Trade Name  
Pyrene, 1,6-bis(4-chlorophenyl)-3,8-bis(1-methylethyl)- (CA INDEX NAME)





CAS Registry Number  
913977-57-9 Chelins

Chemical or Trade Name  
Pyrene, 1,6-bis(4-chlorophenyl)-3,8-diisopropyl- (CA INDEX NAME)



19 ANSWER 42 OF 68 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number  
2006 1037379 CAPLUS Full-text

Document Number  
145 407804

Title  
The organic electroluminescent elements and displays

Author/Inventor  
Nakayama, Masaya

Patent Assignee/Corporate Source  
Fujifilm Photo Film Co., Ltd., Japan

Source  
Jpn. Kokai Tokkyo Koho, 31pp. CODEN J80KAF

Document Type  
Patent

Language  
Japanese

Patent Information					
PATENT NO.	FIG.	DATE	APPLICATION NO.	DATE	
JP 2006269670	A	20061005	JP 2005-04329	20050923	
US 20070154735	A1	20070705	US 2006-389673	20060923	

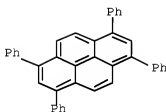
#### Abstract

The disclosed organic electroluminescent element comprises a support, organic electroluminescent layer, at least one of which contains a 1,3,5,8-tetraphenylpyrene derivative and a biphenylbenzene derivative. The preferred triphenylbenzene derivative is 1,3,5-tris(4-*N*-carbazolylphenyl)benzene. The electroluminescent element has high emission efficiency, good luminosity, and color purity.

#### HR Structure

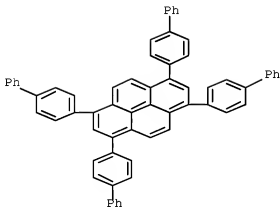
CAS Registry Number  
13630-02-9 CAPLUS

Chemical or Trade Name  
Pyrene, 1,3,5,8-tetraphenyl- (CA INDEX NAME)



CAS Registry Number  
790213-07-3 CAPLUS

Chemical or Trade Name  
Pyrene, 1,3,5,8-tetrakis[1,1'-biphenyl]-4-yl- (CA INDEX NAME)



19 ANSWER 43 OF 68 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number  
2005 974950 CAPLUS Full-text

Document Number  
145 356327

Title  
Preparation of aromatic amine derivatives as doping materials for organic electroluminescent devices

Author/Inventor  
Furukashi, Masakazu; Kubota, Minemitsu

Patent Assignee/Corporate Source  
Idemitsu Kosan Co., Ltd., Japan

Source  
PCT Int. Appl. 82pp. CODEN P00XDE

Document Type  
Patent

## Language

Japanese

## Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2006/08080	A1	20060521	WO 2006-JP300516	20060117
JP 4263700	B2	20060513	JP 2005-73474	20060315
JP 2006256979	A	20060928		
EP 1860096	A1	20071128	EP 2006-711796	20060117
KR 2007110362	A	20071116	KR 2007-720953	20070913
IN 2007CN404053	A	20071123	IN 2007-CN4053	20070917
CN 101142169	A	20080312	CN 2006-0000834	20070917

## Abstract

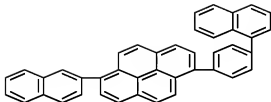
The title compounds [T1 = (A)3a, T2 = (A)3b, T3 = (A)3c, T4 = (A)3d, A1 = A + H, (unsubstituted alkyl), (unsubstituted aryl), (unsubstituted aralkyl), etc., a, b, c, d = 0-3, A5 = A12 = (unsubstituted alkyl), (unsubstituted aryl), (unsubstituted aralkyl), etc., or A5 and A6, A7 and A8, A9 and A10, A11 and A12 may be connected to form a ring, R1 = R10 = H, (unsubstituted alkyl), (unsubstituted aryl), (unsubstituted aralkyl), etc.] are prepared. Thus, the title compound II was prepared from the coupling reaction of 6,12-dibromopyrene with bis(3,4-dimethylphenyl)amine. An organic electroluminescent device containing II showed blue light and luminous efficiency 7.1 cd/A under voltage of 6.9 V.

## Hit Structure

CAS Registry Number  
870714-21-3 CASLOG

## Chemical or Trade Name

Eyrone, 1-([2-naphthalenyl])-6-([4-1-naphthalenyl]phenyl)- (CA INDEX NAME)



GB CITING REF COUNT: 5 THERE ARE 5 CAPLUS RECORDS THAT CITE THIS RECORD (5 CITINGS)

LF ANSWER 44 OF 66 CAPLUS COPYRIGHT 2006 ACS on STN

## Accession Number

2006084879 CAPLUS [Fulltext](#)

## Document Number

149302452

## Title

Material for light-emitting element and light-emitting element

## Author/Inventor

Sagimoto, Kazuo; Murase, Seichiro; Kikawa, Daisuke; Nagao, Kazumasa; Ogawa, Takahiro; Tominaga, Tsuyoshi

## Patent Assignee/Corporate Source

Toray Industries, Inc., Japan

## Source

PCT Int. Appl., 77pp. CODEN PUXD2E

## Document Type

Patent

## Language

Japanese

## Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2006/07772	A1	20060831	WO 2006-JP302054	20060223
JP 2006265515	A	20061005	JP 2005-150464	20050621
EP 1852456	A1	20071107	EP 2006-714394	20060223
KR 2007114723	A	20071204	KR 2007-719375	20070824
US 20090066245	A1	20090312	US 2007-017143	20070824
CN 101125561	A	20090220	CN 2006-0006231	20070627

## Abstract

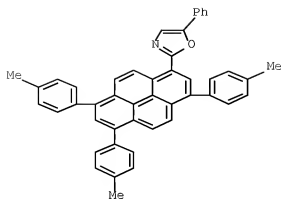
The invention relates to a material for a light-emitting device comprising a pyrene compound represented by a general formula I, where R1 to R10 independently represent a specific functional group, provided that at least one of R1 to R10 represents a substituent represented by a general formula II, where R11 to R14 independently represent a specific functional group, provided that any one of R11 to R14 is used for the single bonding to the pyrene backbone; X1 represents any one of the groups of -O-, -S-, -N(R15), Y1 to Y4 are independently selected from a nitrogen atom and a carbon atom, provided that at least one of Y1 to Y4 is a nitrogen atom and at least one of Y1 to Y4 is a carbon atom and, when it is a nitrogen atom, the nitrogen atom has no substituent attached, R10 represents a specific functional group. By using this material, a light-emitting device having higher light-emitting efficiency and excellent durability can be provided.

## Hit Structure

CAS Registry Number  
818021-91-6 CASLOG

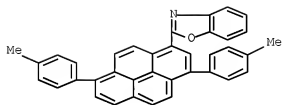
## Chemical or Trade Name

(benzothio, 5-phenyl)-2-(1,6,8-tris(4-methylphenyl)-1-pyrenyl)- (CA INDEX NAME)



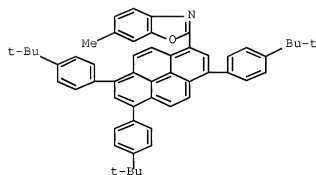
CAS Registry Number  
90921-49-8 CNF1/05

Chemical or Trade Name  
Benzoazolo, 2-[1,8-bis[6-methylphenyl]-1-pyrenyl]- (CA INDEX NAME)



CAS Registry Number  
90921-74-3 CNF1/05

Chemical or Trade Name  
Benzoazolo, 6-methyl-2-[3,6,8-tris[4-(1,1-dimethylethyl)phenyl]-1-pyrenyl]- (CA INDEX NAME)



CAS Registry Number  
90921-75-6 CNF1/05

Chemical or Trade Name  
Benzoazolo, 3-(1,2-dimethylethyl)-2-[3,6,8-tris[4-(1,1-dimethylethyl)phenyl]-1-pyrenyl]- (CA INDEX NAME)



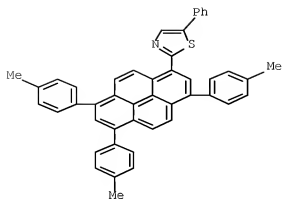
Chemical or Trade Name	
Benothiazole, 2-[3,8-bis(4-methylphenyl)-1-pyrenyl]-	(CA INDEX NAME)



Chemical or Trade Name	
Oxazole, 2-[3,8-bis(4-methylphenyl)-1-pyrenyl]-5-phenyl-	(CA INDEX NAME)

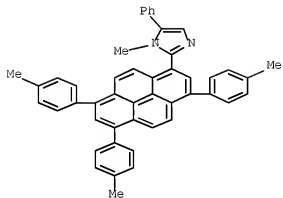


Chemical or Trade Name	
Thiazole, 3-phenyl-2-[3,6,8-tris(4-methylphenyl)-1-pyrenyl]-	(CA INDEX NAME)



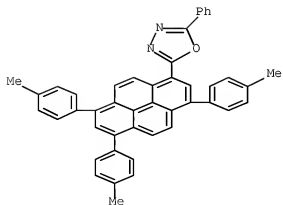
CAS Registry Number  
90821-63-2 CNF155

Chemical or Trade Name  
1H-Thiazole, 1-phenyl-2-[(3,6,8-tris(4-methylphenyl)-1-pyrenyl)-  
(CA INDEX NAME)



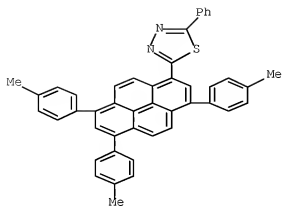
CAS Registry Number  
90821-64-3 CNF173

Chemical or Trade Name  
1,3,4-Oxadiazole, 2-phenyl-5-[(3,6,8-tris(4-methylphenyl)-1-pyrenyl)-  
(CA INDEX NAME)



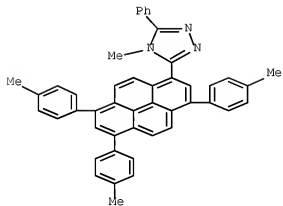
CAS Registry Number  
90031-65-9 CAPLOS

Chemical or Trade Name  
1,7,4-Thiadiazole, 2-phenyl-5-[3,6,8-tris(4-methylphenyl)-1-pyrenyl]- (CA INDEX NAME)



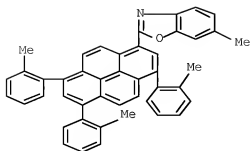
CAS Registry Number  
90031-66-5 CAPLOS

Chemical or Trade Name  
4B-1,2,4-Triazole, 6-methyl-3-phenyl-5-[3,6,8-tris(4-methylphenyl)-1-pyrenyl]- (CA INDEX NAME)



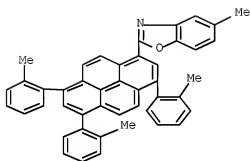
CAS Registry Number  
90031-76-7 CAPLOS

Chemical or Trade Name  
Benzotriazole, 6-methyl-2-[3,6,8-tris(4-methylphenyl)-1-pyrenyl]- (CA INDEX NAME)



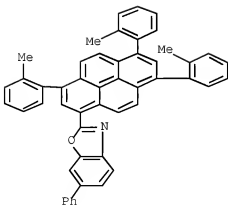
CAS Registry Number  
90821-77-0 CASUS

Chemical or Trade Name  
Benzo[a]acele, 5-methyl-2-[3,6,8-tris(2-methylphenyl)-1-pyrenyl]- (CA INDEX NAME)



CAS Registry Number  
90821-78-9 CASUS

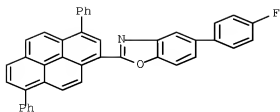
Chemical or Trade Name  
Benzo[a]acele, 6-phenyl-2-[3,6,8-tris(2-methylphenyl)-1-pyrenyl]- (CA INDEX NAME)



CAS Registry Number  
90821-79-0 CASUS

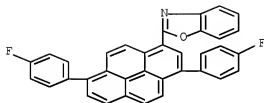
Chemical or Trade Name  
Benzo[a]acele, 2-(1,3,5-diphenyl-1-pyrenyl)-5-(4-fluorophenyl)- (CA INDEX NAME)





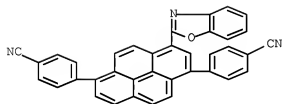
CAS Registry Number  
949021-33-4 CAS#

Chemical or Trade Name  
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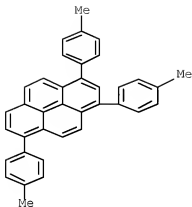
CAS Registry Number  
949021-83-6 CAS#

Chemical or Trade Name  
Benzonitrile, 4,4'-[[3-(2-benzoxazolyl)-1,6-pyrenediyl]bis- (9CI) (CA INDEX NAME)



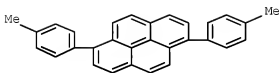
CAS Registry Number  
949021-84-7 CAS#

Chemical or Trade Name  
Pyrene, 1,3,6-tris(4-methylphenyl)- (CA INDEX NAME)



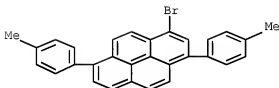
CAS Registry Number  
90011-87-0 CAPLUS

Chemical or Trade Name  
Pyrene, 1,6-bis(4-methylphenyl)- (CA INDEX NAME)



CAS Registry Number  
90011-88-1 CAPLUS

Chemical or Trade Name  
Pyrene, 3-bromo-1,6-bis(4-methylphenyl)- (CA INDEX NAME)



05 CITING REF COUNT: 2 THERE ARE 2 CAPLUS RECORDS THAT CITE THIS RECORD  
(2 CITINGS)

L9 ANSWER 48 OF 66 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number  
2008-566009 CAPLUS Fulltext

Document Number  
14537003

Title  
Organic electroluminescent device

Author/Inventor  
Kawamura, Hisayuki Kubota, Mitsuji

Patent Assignee/Corporate Source  
Idemitsu Kasei Co., Ltd., Japan

Source  
PCT Int. Appl. 70 pp. CODEN: PRXD2

Document Type  
Patent

Language  
Japanese

Patent Information					
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE	
WO 2006062078	A1	20060615	WO 2005-JP22936	20051206	
US 20070134511	A1	20070814	US 2005-296400	20051208	

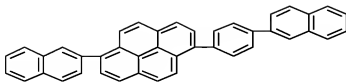
#### Abstract

Disclosed is an organic electroluminescent device comprising at least a pair of electrodes and a light-emitting layer interposed between them. This organic electroluminescent device is characterized in that the light-emitting layer contains a derivative which includes an asym. substituted anthracene as a partial structure and an amine derivative represented by the formula 1, where Ar1-Ar4 resp. represent a substituted or unsubstituted aromatic ring having 6-10 nuclear carbon atoms, R1 and R2 represent substituents which may be the same as or different from each other, or they may combine together to form a saturated or unsatd. ring, and p represents an integer of 1-6.

HR Structure

CAS Registry Number  
848791-34-0 CASLUS

Chemical or Trade Name  
Pyrene, 1-(2-naphthalenyl)-6-[4-(2-naphthalenyl)phenyl]- (CA INDEX NAME)



CITING REF COUNT: 3 THREE ARE 3 CASLUS RECORDS THAT CITE THIS RECORD  
(5 CITINGS)

19 ANSWER 46 OF 68 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number  
2005103880 CAPLUS [Fulltext](#)  
Document Number  
14337410

Title  
Organic electroluminescent device  
Author/Inventor  
Kawamura, Hiroyuki; Kubota, Mineyuki; Furukawa, Masakazu  
Patent Assignee/Corporate Source  
Mitsubishi Kasei Co., Ltd., Japan

Source  
PCT Int. Appl., 67 pp. CODEN: PBOXD2

Document Type  
Patent

Language  
Japanese

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004059512	A1	20040608	WO 2005JP21469	20051122
JP 2004156888	A	20040615	JP 2004-348675	20041201
CN 101049299	A	20071107	CN 2005-89041191	20051122
US 20040156102	A1	20040720	US 2005-090291	20051129
US 7528042	B2	20050905		
KR 2007091280	A	20070810	KR 2007-712284	20070831

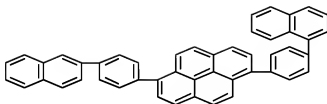
#### Abstract

Disclosed is an organic electroluminescent device comprising at least an anode, a cathode and an organic light-emitting layer interposed between the electrodes, wherein the organic light-emitting layer contains one or more host materials, a hole-trapping dopant and an electron-trapping dopant. By having the hole-trapping dopant and the electron-trapping dopant covalent in the organic light-emitting layer, the organic electroluminescent device can have a longer life.

#### HR Structure

CAS Registry Number  
810714-33-7 CAPLUS

Chemical or Trade Name  
Pyrene, 1-(4-{2-[2-(naphthalenyl)phenyl]-6-[4-{2-(naphthalenyl)phenyl}]-1,3,5,8-tetrayl})-4-yl



05 CITING REF COUNT: 3 THERE ARE 3 CAPLUS RECORDS THAT CITE THIS RECORD (1 CITING)

19 ANSWER 47 OF 68 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number  
2005103787 CAPLUS [Fulltext](#)  
Document Number  
14517894

Title  
Pyrene compound and light emitting transistor device utilizing the same for electroluminescent display  
Author/Inventor  
Oyamada, Takahito; Uchizawa, Hiroyuki; Adachi, Chihaya; Akiyama, Seng; Takahashi, Takayoshi  
Patent Assignee/Corporate Source  
Kyoto University, Japan; Nippon Telegraph and Telephone Corporation, Pioneer Corporation, Hitachi, Ltd., Mitsubishi Chemical Corporation, Rohm Co., Ltd.

Source  
PCT Int. Appl., 47 pp. CODEN: PBOXD2

Document Type  
Patent

Language  
Japanese

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004057326	A1	20040608	WO 2005JP21468	20051122
JP 2004176491	A	20040706	JP 2005-257934	20050906
EP 1816114	A1	20070808	EP 2005-898746	20051125
CN 101080376	A	20071128	CN 2005-89040407	20051125
KR 2007095900	A	20070928	KR 2007-714327	20070622
US 20080105865	A1	20080308	US 2007-791874	20070806

#### Abstract

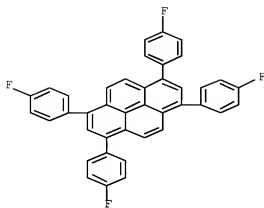
A pyrene compound that when used in a light emitting transistor device, excels in both the properties of light emission and mobility, and a light emitting transistor device utilizing such a specified pyrene compound. As a main constituent of a luminescent layer of light emitting transistor device, use is made of a pyrene compound of the chemical formula I (R1 = heteroaryl, aryl (excluding Ph), C1-20-alkyl, alkynyl, alkenyl, silyl, halo).

#### HR Structure

CAS Registry Number  
810512-24-5 CAPLUS

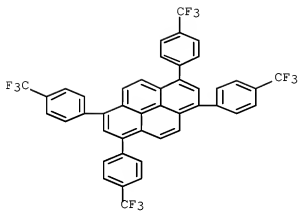
Chemical or Trade Name

Pyrene, 1,3,6,8-tetraakis(4-fluorophenyl)- (CA INDEX NAME)



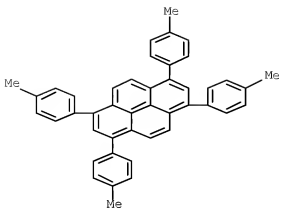
CAS Registry Number  
881853-23-2 (EPL/IS)

Chemical or Trade Name  
Pyrene, 1,3,6,8-tetraakis(4-trifluoromethylphenyl)- (CA INDEX NAME)



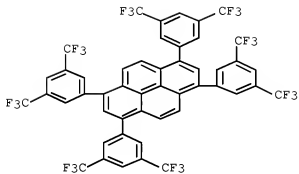
CAS Registry Number  
887909-71-9 (EPL/IS)

Chemical or Trade Name  
Pyrene, 1,3,6,8-tetraakis(4-methylphenyl)- (CA INDEX NAME)



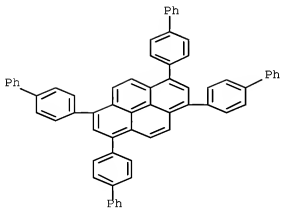
CAS Registry Number  
887909-13-1 CAS#109

Chemical or Trade Name  
Pyrene, 1,3,6,8-tetrakis[3,5-bis(trifluoromethyl)phenyl]- (CA INDEX NAME)



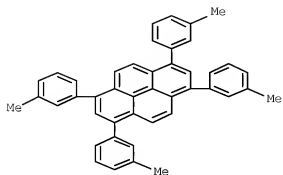
CAS Registry Number  
78213-91-3 CAS#109

Chemical or Trade Name  
Pyrene, 1,3,6,8-tetrakis[1,1'-biphenyl]-4-yl- (CA INDEX NAME)



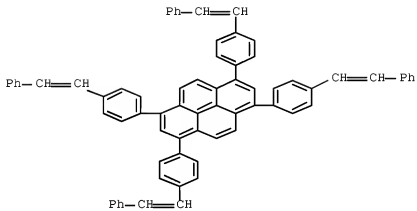
CAS Registry Number  
970133-11-4 CAS#109

Chemical or Trade Name  
Pyrene, 1,3,6,8-tetrakis[3-methylphenyl]- (CA INDEX NAME)



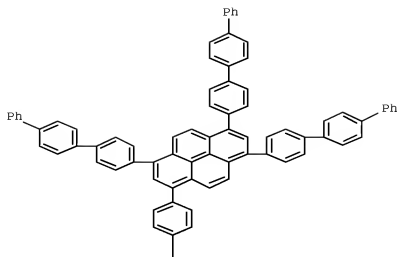
CAS Registry Number  
887909-55-9 CAS#

Chemical or Trade Name  
Pyrene, 1,3,6,8-tetrakis[4-(2-phenylethenyl)phenyl]- (CA INDEX NAME)



CAS Registry Number  
887909-57-1 CAS#

Chemical or Trade Name  
Pyrene, 2,3,6,8-tetrakis[1,1'4',2''-terphenyl-6-yl]- (9CI) (CA INDEX NAME)



CG CITING REF COUNT: 3 THESE ARE 3 CAPLUS RECORDS THAT CITE THIS RECORD  
(1 CITINGS)

L9 ANSWER 48 OF 86 CAPLUS COPYRIGHT 2009 ACS on BTN

Accession Number  
2008-510508 CAPLUS File #15  
Document Number  
145 17891

Title  
Pyrene compound and, utilizing the same, light emitting transistor device and electroluminescence device

Author/Inventor  
Oyamada, Takahito; Uchizawa, Hiroyuki; Adachi, Chihaya; Akizawa, Seig; Takahashi, Takayoshi

Patent Assignee/Corporate Source  
Kyoto University, Japan; Nippon Telegraph and Telephone Corporation, Pioneer Corporation, Hitachi, Ltd., Mitsubishi Chemical Corporation, Rohm Co., Ltd.

Source  
PCT Int. Appl., 66 pp. CODEN: P00XD2

Document Type  
Patent

Language  
Japanese

Patent Information

PATENT NO	KIND	DATE	APPLICATION NO	DATE
WO 2006057325	A1	20060601	WO 2005-JP21647	20051125
JP 2006176494	A	20060706	JP 2005-282590	20050928
EP 1818322	A1	20070815	EP 2005-069745	20051129
CN 101072743	A	20071114	CN 2005-80040399	20051125
KR 2007093401	A	20070918	KR 2007-714336	20070622
US 20080012475	A1	20080117	US 2007-791813	20070806

Abstract:

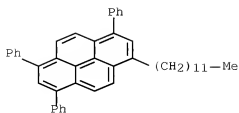
An organic phosphor of the following formula 1 (R1 = heteroaryl, aryl, C1-20-alkyl, cycloalkyl, alkenyl, etc.; R2 = heteroalkyl, aryl, C1-20-alkyl, cycloalkyl, alkenyl, etc.; R1 ≠ R2) that can be used in both a light emitting transistor device and an organic EL device. There is provided a light emitting transistor device or an organic EL device, wherein luminescence of such a specified asym. pyrene compound is utilized in a light emitting layer of transistor device or a luminescent layer, hole transporting layer or electron transporting layer of organic electroluminescence device.

HR Structure

CAS Registry Number  
86791-92-2 CAPLUS

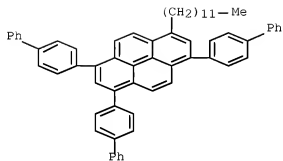
Chemical or Trade Name  
Pyrene, 2-dodecyl-3,6,8-triphenyl- (CA INDEX NAME)





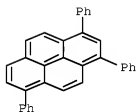
CAS Registry Number  
887921-94-8 CAS1/05

Chemical or Trade Name  
Pyrene, 1,3,6-trisubstituted with phenyl groups and a dodecyl chain (CA INDEX NAME)



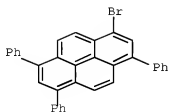
CAS Registry Number  
887920-05-0 CAS1/05

Chemical or Trade Name  
Pyrene, 1,3,6-trisubstituted with phenyl groups and a dodecyl chain (CA INDEX NAME)



CAS Registry Number  
887920-97-2 CAS1/05

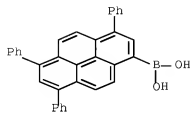
Chemical or Trade Name  
Pyrene, 1-bromo-3,6,8-trisubstituted with phenyl groups (CA INDEX NAME)



CAS Registry Number  
887920-18-5 CAS1/05

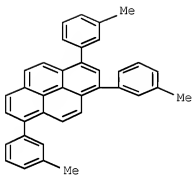
Chemical or Trade Name

Boronio acid, 8-(3,6,8-triphenyl-1-pyrenyl)- (CA INDEX NAME)



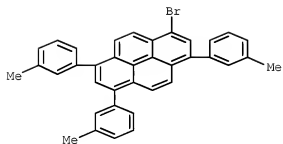
CAS Registry Number  
887938-26-5    CAS105

Chemical or Trade Name  
Pyrene, 1,3,6-tris(3-methylphenyl)- (CA INDEX NAME)



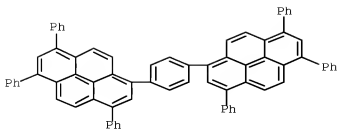
CAS Registry Number  
887938-30-1    CAS105

Chemical or Trade Name  
Pyrene, 1-bromo-3,6,8-tris(3-methylphenyl)- (CA INDEX NAME)



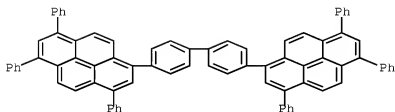
CAS Registry Number  
887938-09-4    CAS105

Chemical or Trade Name  
Pyrene, 1,3,6-tris(phenyl-9-[4-(3,6,8-triphenyl-1-pyrenyl)phenyl]- (CA INDEX NAME)



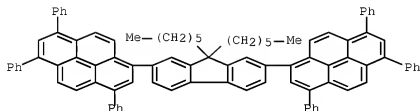
CAS Registry Number  
887928-32-9 CAYL05

Chemical or Trade Name  
Pyrene, 1,1'-(3,3'-biphenyl)-4,4'-diylbis[3,6,8-triphenyl]- (9CI) (CA INDEX NAME)



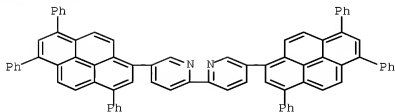
CAS Registry Number  
887928-26-3 CAYL05

Chemical or Trade Name  
Pyrene, 1,1'-(9,9-dihexyl-9H-fluorene-2,7-diyl)bis[3,6,8-triphenyl]- (CA INDEX NAME)



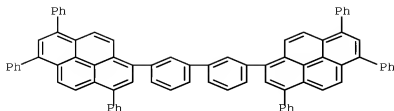
CAS Registry Number  
887928-33-9 CAYL05

Chemical or Trade Name  
Pyrene, 1,1'-(3,3'-bis[3,6,8-triphenyl-1-pyrenyl]-2,2'-dipyrroline)- (CA INDEX NAME)



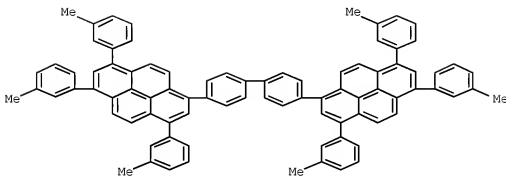
CAS Registry Number  
887928-23-2 CAYL05

Chemical or Trade Name  
Pyrene, 1,1'-(3,3'-biphenyl)-3,3'-diylbis[3,6,8-triphenyl]- (9CI) (CA INDEX NAME)



CAS Registry Number  
81722-12-3 CAPLUS

Chemical or Trade Name  
Pyrene, 1,3,5-tris(4-phenylphenyl)-4,4'-diylbis[3,6,8-tris(3-methylphenyl)-  
(5C1) (CA INDEX NAME)



CS CITING REF COUNT: 2 THERE ARE 2 CAPLUS RECORDS THAT CITE THIS RECORD  
(3 CITINGS)

L9 ANSWER 48 OF 88 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number  
2008-062098 CAPLUS [Fulltext](#)  
Document Number  
144 422134

Title  
Estimation of carrier recombination and electroluminescence emission regions in organic light-emitting field-effect transistors using local doping method

Author/Inventor  
Oyamada, Takahito; Sasabe, Hiroyuki; Oki, Yoshiaki; Shimoy, Noriyuki; Adachi, Chiyea

Patent Assignee/Corporate Source

Department of Photonic Materials Science, Chitose Institute of Science and Technology, 735-43 Bih, Chitose, Hokkaido, 066-0455, Japan

Source

Applied Physics Letters (2006), 88(9), 093514/1-093514/3 CODEN APPLAB; ISSN 0003-6951

Document Type

Journal

Language

English

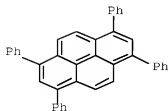
Abstract

To elucidate the electroluminescence (EL) mechanism of organic light-emitting field-effect transistors (OLEFETs), the authors determined the carrier recombination and EL emission regions using the local doping method. The local doping method is a useful technique for estimating the width of these regions in OLEFETs. The authors inserted an ultrathin rubrene doped 1,3,6,8-tetrachloropyrene (TPPy) layer ( $d = 10$  nm) as a sensing layer in a TPPy layer (50 nm) and measured the luminescence-drain current-voltage characteristics and the EL spots depending on the position of the sensing layer. The EL emission region expanded almost to the height (h) since 40 nm of the source-drain electrodes and was independent of the gate bias voltage ( $V_g$ ). Further, the EL external quantum efficiency ( $\eta_{\text{ext}}$ ) significantly decreased as  $V_g$  increased, suggesting that excitons generated in a TPPy host layer by carrier recombination are quenched by the application of  $V_g$ .

Hit Structure

CAS Registry Number  
13635-02-9 CAPLUS

Chemical or Trade Name  
Pyrene, 1,3,6,8-tetraphenyl- (CA INDEX NAME)



19 ANSWER 50 OF 68 CAPLUS, COPYRIGHT 2669 ACS on STN

Accession Number

2669 88289 CAPLUS [Full text](#)

Document Number

149.82913

Title

Ab Initio Study of Substituted Pyrenes for Blue Organic Light-Emitting Diodes

Author(s)

Park, Yung Hwan, Lee, Young Hee, Park, Gu Yoon, Park, No Gil, Kim, Young Sik

Patent Assignee/Corporate Source

Department of Molecular Electronics Engineering, Hangeul University, Seoul, S. Korea

Source

Molecular Crystals and Liquid Crystals (2006), 444, 177-184 CODEN MCLCDB, ISSN 1542-1466

Document Type

Journal

Language

English

Abstract

Luminescence efficiency of pyrene mol. is very low because of the aggregation effect of planar pyrene mol's. However, 1,3,6,8-tetra-substituted pyrenes with large electron donating group were reported to give a bright blue fluorescence. 1,6-B-substituted and 1,6,8,9-tetra-substituted pyrenes as well as 1,3,6,8-tetra-substituted pyrenes were studied to find out the possibilities as the blue fluorescent materials of organic light-emitting diodes (OLEDs). Geometrical and elec. calcs. were performed by ab initio methods. HF/3-21G(d) basis set was used for the geometry optimization of the ground electronic states of those compounds. The geometry of the low-lying excited electronic state was optimized using CI with single excitation (CIS) method. The vertical and adiabatic transition energies were calculated by time-dependent d. functional theory (TD-DFT) using the B3LYP functional with 6-311G(d) basis set. From calculational results, it was explained that the change in fluorescence wavelength was affected by the position and the number of substituents, through analyzing the change of energy levels of the highest occupied MOs (HOMOs) and the lowest unoccupied MOs (LUMOs) of pyrene. Some of substituted pyrenes showed possibilities as stronger fluorescent materials. New efficient emitting materials for OLEDs were proposed from the calcn. results obtained by tuning the position, the number of substitution and the species of substituting moiety.

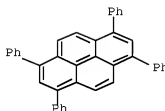
Hi Quidone

CAS Registry Number

13639-82-9 CAPLUS

Chemical or Trade Name

Pyrene, 1,3,6,8-tetraphenyl- (CA INDEX NAME)

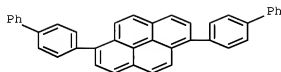


CAS Registry Number

792891-71-7 CAPLUS

Chemical or Trade Name

Pyrene, 1,6-bis[3,3'-biphenyl]-4-yl- (CA INDEX NAME)

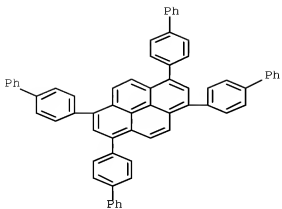


CAS Registry Number

792873-01-3 CAPLUS

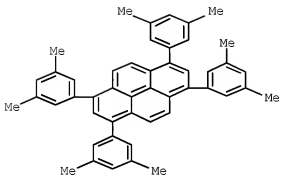
Chemical or Trade Name

Pyrene, 1,3,6,8-tetraakis[3,3'-biphenyl]-4-yl- (CA INDEX NAME)



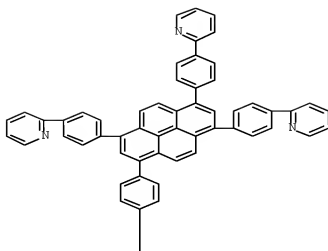
CAS Registry Number  
863639-30-9 CASL05

Chemical or Trade Name  
Pyrene, 1,3,6,8-tetrakis(3,5-dimethylphenyl)- (CA INDEX NAME)



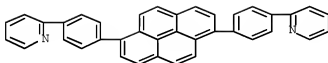
CAS Registry Number  
854412-20-9 CASL05

Chemical or Trade Name  
Pyrene, 2,2',3',3''-(1,3,6,8-tetrakis(3,5-dimethylphenyl))- (CA INDEX NAME)



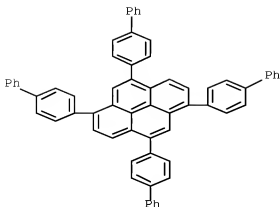
CAS Registry Number  
894418-31-6 CAPLOS

Chemical or Trade Name  
Pyridine, 2,2'-(1,6-pyrenediyl)di(4,3-phenylene)bis- (SCI) (CA INDEX NAME)



CAS Registry Number  
894418-36-1 CAPLOS

Chemical or Trade Name  
Pyrene, 3,4,8,9-tetrakis[1,1'-biphenyl]-4-yl)- (CA INDEX NAME)



LE ANSWER 51 OF 66 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number  
20051292773 CAPLUS [Full Text](#)  
Document Number  
144-02963

Title  
Asymmetric pyrene derivative and organic electroluminescent device using same to improve luminous efficiency and long life

Author/Inventor  
Kubota, Mineyuki; Funahashi, Masakazu; Hosokawa, Cheiho

Patent Assignee/Corporate Source  
Idemitsu Kosan Co., Ltd., Japan

Source  
PCT Int. Appl., 48 pp. CODEN: PEXXD2

Document Type  
Patent

Language  
Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005/19950	A1	2005/1206	WO 2005-JP8494	20050910
EP 1748606	A1	20070207	EP 2005-739101	20050910
CN 1960957	A	20070309	CN 2005-80017149	20050910
US 20060154107	A1	20060713	US 2005-022582	20051121
KR 2007029717	A	20070314	KR 2006-724933	20061127
IN 2006CH04335	A	20070629	IN 2006-CH4335	20061127

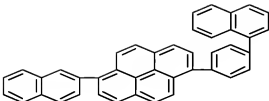
Abstract

Disclosed are asym. pyrene derivs. having substituents (L)mAr'n (Ar, Ar' = C6-50-aromatic group; L, L' = phenylene, naphthalenylene, fluorenylene, dibenzosilylene; m = 0-2; n = 1-4; s = 0-2; t = 0-4). An organic electroluminescent device comprising an organic thin film layer which is interposed between an anode and a cathode and composed of one or more layers including at least a light-emitting layer is also disclosed wherein the organic thin film layer contains at least one of the asym. pyrene derivs. by itself or as a component of a mixture. Such an organic electroluminescent device has high luminous efficiency and long life due to the asym. pyrene derivative.

Hit Structure

CAS Registry Number  
870714-21-3 CAPLUS

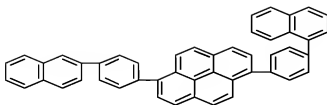
Chemical or Trade Name  
Pyrene, 3-(2-naphthalenyl)-6-[4-(3-naphthalenyl)phenyl]- (CA INDEX NAME)



CAS Registry Number  
870714-21-3 CAPLUS

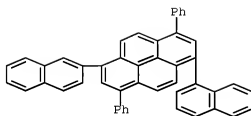
Chemical or Trade Name  
Pyrene, 3-(2-(3-naphthalenyl)phenyl)-6-[4-(3-naphthalenyl)phenyl]- (CA INDEX NAME)





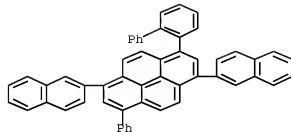
CAS Registry Number  
870774-23-5 CAPLUS

Chemical or Trade Name  
Eylene, 1-(12-naphthalenyl)-5,8-diphenyl- (CA INDEX NAME)



CAS Registry Number  
870774-24-6 CAPLUS

Chemical or Trade Name  
Eylene, 3-(1,1'-biphenyl)-2-yl-3,8-di-2-naphthalenyl-6-phenyl- (CA INDEX NAME)



08 CITING REF COUNTRIES 7 THESE ARE 7 CAPLUS RECORDS THAT CITE THIS RECORD (20 CITIES)

LR ANSWER 32 OF 66 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number  
20051134873 CAPLUS Fulltext

Document Number  
143 429826

Title  
Organic electroluminescent device and organic electroluminescent display

Author/Inventor  
Ito, Yuichiro

Patent Assignee/Corporate Source  
Fujitsu Limited, Japan

Source  
PCT Int. Appl. 32 pp. CODEN: PROXDS

Document Type  
Patent

Language  
Japanese

Patent Information

PATENT NO	KIND	DATE	APPLICATION NO	DATE
WO 2005101911	A1	20051027	WO 2004JP4662	20040331
TW 252051	B	20060321	TW 2004-93106575	20040330
US 20070285005	A1	20071219	US 2007-994660	20070608

Abstract

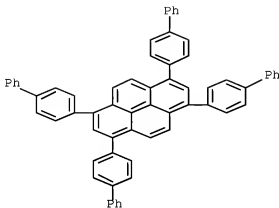
An organic electroluminescent (EL) device comprises an anode, a hole injection layer, a hole transport layer, a blue light-emitting layer, a hole blocking layer, an electron transport layer, and a cathode formed sequentially on a

glass substrate wherein the chromaticity of blue is enhanced while prolonging the lifetime by composing the electron transport layer of an electron transport material and a light-emitting material having a peak wavelength of emission spectrum longer than 555 nm, consuming holes by the light-emitting material and suppressing deterioration of the electron transport material.

#### Hit Structure

CAS Registry Number  
750273-07-3 CAPLUS

Chemical or Trade Name  
Pyrene, 1,3,6,8-tetraakis[1,1'-biphenyl]-4-yl- (CA INDEX NAME)



LA ANSWER 93 OF 66 CAPLUS COPYRIGHT 2009 ACS on STN  
Accession Number

2005114823 CAPLUS [Full Text](#)

Document Number

14429415

Title

Lateral organic light-emitting diode with field-effect transistor characteristics

Author/Inventor

Oyamada, Takahito; Hroyuki, Akiyama, Seiji; Oka, Yoshiaki; Shimizu, Noriyuki; Matsushige, Kazumi; Sasabe, Hroyuki; Adachi, Chihaya

Patent Assignee/Corporate Source

Department of Photonic Materials Science, Chitose Institute of Science and Technology (CIST), 758-65 Bdb, Chitose, Hokkaido, 066-8505, Japan

Source

Journal of Applied Physics (2006), 99(7), 074506/1-074506/7 CODEN JAPHAU; ISSN 0021-8979

Document Type

Journal

Language

English

Abstract

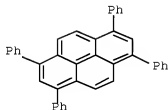
Bright electroluminescence (EL) was observed from 1% rubrene doped tetraphenylpyrene (TPPy) as an active layer in a lateral organic LED structure that allowed FET operation. This device configuration provides an organic LED structure where the anode (Au/Pd) and cathode (Ba/Al) electrodes are laterally arranged, providing one a chance to control the EL intensity by changing the gate bias. TPPy provides comparable transistor and EL characteristics. Rubrene doping into the TPPy host and adjusting the source-drain channel length significantly improved the EL characteristics. A maximum EL quantum efficiency (yield) of approx 0.5% was observed with a O/Au source (S)-drain (D) electrode and a slightly higher yield of approx 0.8% with S-D electrodes of Mg/Au/Au, Al/Au, Cu/Au/Au, and Mg/Al/Au multilayers, aiming for simultaneous hole and electron injection.

#### Hit Structure

CAS Registry Number  
13638-82-9 CAPLUS

Chemical or Trade Name

Pyrene, 1,3,6,8-tetraphenyl- (CA INDEX NAME)



19 ANSWER 54 OF 68 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number

2005 962379 CAPLUS Fulltext

Document Number

14325616

Title

White organic electroluminescence device

Author/Inventor

Takami, Hiroshi; Fukusaka, Kenichi; Kubota, Mineyuki; Furushashi, Masakazu

Patent Assignee/Corporate Source

Idemitsu Kosan Co., Ltd., Japan

Source

PCT Int. Appl., 63 pp. CODEN: P6XXD2

Document Type

Patent

Language

Japanese

Patent Information

PATENT NO.	KEY	DATE	APPLICATION NO.	DATE
WO 2005081587	A1	20050901	WO 2005JP2442	200509217
EP 1718124	A1	20061102	EP 2005-719244	200509217
CN 1679494	A	20061213	CN 2005-30001270	200509217
US 20070269638	A1	20070922	US 2006-073661	200609328
KR 2006113972	A	20061106	KR 2006-708166	200609427

Abstract

The invention refers to a white organic electroluminescence device comprising a neg. electrode and a pos. electrode and, interposed there between, one or more organic thin film layers including at least a light emitting layer, wherein the light emitting layer is constituted of a laminate of blue color light emitting layer and yellow-to-red color light emitting layer and contains an asym. condensed-ring-containing compound. This white color organic electroluminescence device realizes reduced chromaticity changes and excels in luminous efficiency and thermal stability, ensuring strongly prolonged service life.

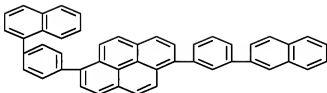
HN Structure

CAS Registry Number

863292-22-9 CAPLUS

Chemical or Trade Name

Pyrene, 1-[3-(3-(2-naphthalenyl)phenyl)-6-[4-(3-naphthalenyl)phenyl]]- (CA INDEX NAME)



CS CITING REF COUNT: 3

THERE ARE 3 CAPLUS RECORDS THAT CITE THIS RECORD  
(7 CITINGS)

19 ANSWER 55 OF 68 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number

2005 854280 CAPLUS Fulltext

Document Number

14327523

Title

Tetra-substituted pyrenes: new class of blue emitter for organic light-emitting diodes

Author/Inventor

Saito, Masaru; Sato, Hiroyuki; Kinoshita, Masaru; Takahashi, Toshiro; Matsura, Akuma; Kodama, Jun; Sawatari, Morio; Inoue, Hiroshi

Patent Assignee/Corporate Source

Functional Organic Materials Laboratory, Fujitsu Laboratories Limited, Monosato-Wakamya, Atsugi, 243-0197, Japan

Source

Digest of Technical Papers - Society for Information Display International Symposium (2003), 34, 129-6-1297 CODEN: DTSPDG

Document Type

Journal (computer optical disk)

Language

English

Abstract

We have developed a new class of highly-fluorescent blue emitter for organic light-emitting diodes (OLEDs) consisting of tetra-substituted pyrenes. From the anal. of the excited state diagrams of pyrene and its derivs. by MO calcns., we found that the new tetra-substituted pyrenes are highly fluorescent. OLEDs fabricated using the synthesized tetra-substituted pyrenes as emitters showed high efficiency and good color purity.

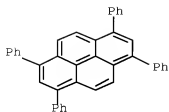
HN Structure

CAS Registry Number

11636-82-9 CAPLUS

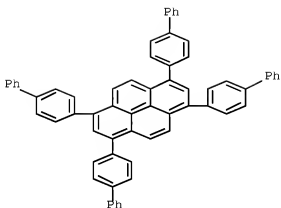
Chemical or Trade Name

Pyrene, 1,3,6,8-tetraphenyl- (CA INDEX NAME)



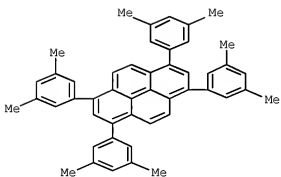
CAS Registry Number  
78971-97-3 CAS1/05

Chemical or Trade Name  
Pyrene, 1,3,6,8-tetrakis[1,1'-biphenyl]-4-yl- (CA INDEX NAME)



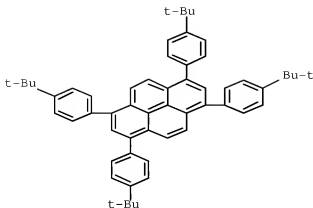
CAS Registry Number  
863639-30-9 CAS1/05

Chemical or Trade Name  
Pyrene, 1,3,6,8-tetrakis[3,5-dimethylphenyl]- (CA INDEX NAME)



CAS Registry Number  
963639-31-0 CAS1/05

Chemical or Trade Name  
Pyrene, 1,3,6,8-tetrakis[4-(1,1-dimethylethyl)phenyl]- (CA INDEX NAME)



06 CITING REF COUNT: 3 THERE ARE 3 CAPLUS RECORDS THAT CITE THIS RECORD  
(3 CITINGS)

19 ANSWER 56 OF 66 CAPLUS COPYRIGHT 2006 ACS on STN

Accession Number  
3000336813 CAPLUS Fulltext  
Document Number  
14413629

Title  
High-performance blue OLEDs based on a stencily hindered pyrene host material

Author/Inventor  
Yeh, Chie-Chun, Lee, Meng-Ting, Chen, Hsiao-Hung, Chen, Chen H  
Patent Assignee/Corporate Source  
Department of Applied Chemistry, National Chiao Tung University, Hsinchu, Taiwan, 300, Taiwan

Source  
Digest of Technical Papers - Society for Information Display International Symposium (2004), 35, 796-791 CODEN, DTPODS

Document Type  
Journal, (computer optical disk)

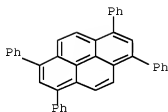
Language  
English

Abstract  
The authors developed a blue organic light-emitting device (OLED) emitter based on a stencily hindered fluorescent host material of tetra(4-phenyl)pyrene (TOTP) which effectively suppresses the excimer emission of its electroluminescence. Doped with DSA-Ph of matching LUMO/HOMO, TOTP was used to produce a blue device with luminance efficiency of 6.64 cd/A at 20 mA/cm<sup>2</sup> and 7.1 V with a CIE(x,y) color coordinate of [0.15, 0.25]. The properties of selected 1,3,6,8-tetra(4-phenyl)pyrenes were measured and compared with conventional anthracene-based materials.

Hit Structure

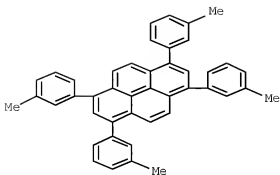
CAS Registry Number  
13638-82-9 CAPLUS

Chemical or Trade Name  
Pyrene, 1,3,6,8-tetraphenyl- (CA INDEX NAME)



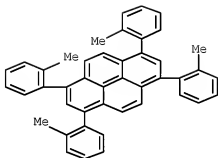
CAS Registry Number  
870133-71-4 CAPLUS

Chemical or Trade Name  
Pyrene, 1,3,6,8-tetra[1,3-phenyl]phenyl- (CA INDEX NAME)



CAS Registry Number  
870133-72-5 CAPLUS

Chemical or Trade Name  
Pyrene, 1,3,6,8-tetrakis[2-methylphenyl]- (CA INDEX NAME)



OF CITING REF COUNT: 10 THERE ARE 10 CAPLUS RECORDS THAT CITE THIS RECORD (10 CITINGS)

LR ANSWER 57 OF 66 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number  
2005305061 CAPLUS [Fulltext](#)  
Document Number  
142381949

Title  
Pyrene derivative, light emitting element, and light emitting device

Author/Inventor  
Namura, Ryo; Takasu, Takao, Abe, Hiroko, Tetsuda, Atsushi  
Patent Assignee/Corporate Source  
Semiconductor Energy Laboratory Co., Ltd., Japan

Source  
U.S. Pat Appl Publ. 22 pp CODEN: USXXCO

Document Type  
Patent  
Language  
English

Patent Information

PATENT NO	KIND	DATE	APPLICATION NO.	DATE
US 20050079385	A1	20050414	US 2004-954341	20041001
US 7232619	B2	20070619		
JP 2005126431	A	20050519	JP 2004-289684	20041001

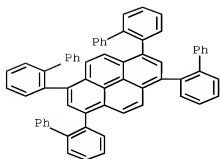
Abstract

It is an object of the present invention to provide a pyrene derivative that is unlikely to crystallize and is superior in quality in the case of forming a film. It is an object of the present invention to provide a light-emitting element from which stable light emission can be obtained for a long stretch of time by using the pyrene derivative [JP1-4 = C1-5 alkyl, alkoxyl, aryl, diarylamino or silyl with one or more alkyl or aryl groups]. By using vacuum deposition to deposit this material, a light-emitting element from which stable light emission can be obtained efficiently for a long stretch of time can be obtained.

HR Structure

CAS Registry Number  
723293-24-3 CAPLUS

Chemical or Trade Name  
Pyrene, 1,3,6,8-tetrakis[1,1'-biphenyl]-2-yl]- (CA INDEX NAME)



66 CITING REF COUNT: 4 THERE ARE 4 CAPSUS RECORDS THAT CITE THIS RECORD  
(6 CITINGS)

L9 ANSWER 58 OF 68 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number  
2005 292393 CAPLUS [Full-text](#)  
Document Number  
143 16108

Title

White organic light-emitting diode comprising of blue fluorescence and red phosphorescence

Author/Inventor

Oh, Dae-Han, Tao, Ye

Patent Assignee/Corporate Source

National Research Council of Canada, Institute for Microstructural Sciences, Ottawa, ON, K1A 0R6, Can.

Source

Applied Physics Letters (2005), 86(11), 113507/1-113507/3 CODEN APPLAB, ISSN 0003-6951

Document Type

Journal

Language

English

Abstract

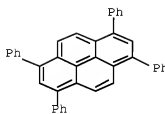
A white organic light-emitting diode with the structure of ITO/NPB 30 nm/TCTA:2% TPP 20 nm/BCP:0.4% Ir(piq)3/250 nm/Ag 40 nm/Ir(piq)3/250 nm/Ag 40 nm was fabricated and characterized, where 2,5,7,10-tetra-phenylpyrene and bis(1-phenylisquinoline) Ir (III) (Ir(piq)3) were used as a blue fluorescent dye and a red phosphorescent dye, resp. The I-V characteristics of the device showed a turn-on voltage of 2.6 V. The electroluminescent spectra of the device consisted of blue fluorescent and phosphorescent emissions. The intensity of the blue emission increased gradually relative to the red emission with increasing voltage. The emissions of the device were in the white-light region between 15 and 15 V. A maximum white light luminance of 10% reflect with CIE coordinates of (x, y) = (0.27, 0.24) was reached at 15 V with an efficiency of 1.23 cd/A. The white light emission is related to the simultaneous exciton formation on both sides of the TCTA/BCP interface.

HI Structure

CAS Registry Number  
13638-82-9 CN/L05

Chemical or Trade Name

Pyrene, 1,3,6,8-tetraphenyl- ICA INDEX NAME)



05 CITING REF COUNT: 3 THERE ARE 3 CAPLUS RECORDS THAT CITE THIS RECORD  
(0 CITINGS)

L9 ANSWER 59 OF 68 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number  
2005 131766 CAPLUS [Full-text](#)  
Document Number  
142 400200

Title

Increased electrophosphorescent efficiency in organic light emitting diodes by using an exciton-collecting structure

Author/Inventor

Oh, Dae-Han, Tao, Ye

Patent Assignee/Corporate Source

National Research Council of Canada, Institute for Microstructural Sciences, Ottawa, ON, K1A 0R6, Can.

Source

Journal of Applied Physics (2005), 97(4), 044505/1-044505/4 CODEN JAPAPU, ISSN 0021-8979

Document Type

Journal

Language

English

Abstract

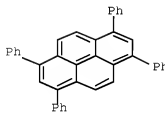
A phosphorescent dye, bis(1-phenylisquinoline) Ir (III) (Ir(piq)3) doped interface of 4,4'-N,N'-bis(carbazol-9-yl)-N,N'-diphenylbenzene (TCTA) and 2,9-dimethyl-4,7-diphenyl-1,10-phenanthroline (BCP) was studied in organic light emitting diodes. Two devices with different emission interfaces, TCTA:0.4% Ir(piq)3/BCP and TCTA:0.4% Ir(piq)3/BCP:1% Ir(piq)3, exhibited nearly the same red Ir(piq)3 emissions and I-V characteristics. However, the 2nd device showed higher efficiency and luminance than the 1st device over the whole voltage range. The maximum efficiency of 6.0 cd/A reached at 0.025 mA/cm<sup>2</sup> in the 2nd device was 30% higher than that of 4.6 cd/A reached at 0.025 mA/cm<sup>2</sup> in the 1st device. The improved performance of the 2nd device is attributed to the fact that the excitons can be formed on both sides of the TCTA/BCP interface and can be more efficiently collected with the added 1% Ir(piq)3 doped in the BCP layer. Therefore, the exciton-collecting structure, doping phosphorescent dyes into both sides of the TCTA/BCP interface, is believed to be a very useful way to optimize the performance of phosphorescent organic light emitting diodes.

HI Structure

CAS Registry Number  
13638-82-9 CN/L05

Chemical or Trade Name

Pyrene, 1,3,6,8-tetraphenyl- ICA INDEX NAME)



L9 ANSWER 60 OF 68 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number  
2005 75901 CAPLUS [Full-text](#)



Document Number  
142-186928

Title  
Organic electroluminescent (EL) devices with improved electron injection efficiency and full-color flat displays using them

Author/Inventor  
Nakayama, Masaya, Kinoshita, Shoji, Kodama, Atsushi

Patent Assignee/Corporate Source  
Fujitsu Ltd., Japan

Source  
Jpn. Kokai Tokkyo Koho, 20 pp. CODEN JKKXAF

Document Type  
Patent

Language  
Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2005026216	A	20050127	JP 2004-85518	20040323

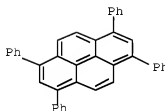
#### Abstract

The devices have hole-transporting layers, light-emitting layers, and electron-transporting layers in this order between anodes and cathodes, satisfying that  $[Ea(emi) - Ea(hil)] \leq 0.15$  eV and  $[Ea(hil) - Ea(eti)] \leq 0.15$  eV.  $Ea(emi)$ ,  $Ea(hil)$ ,  $Ea(eti)$  = electron affinity of light-emitting layer, hole-transporting layer, and electron-transporting layer, resp.] The displays, using the devices as blue-emitting sources, show improved brightness.

#### Hit Structure

CAS Registry Number  
174739-82-9 CN/L0/8

Chemical or Trade Name  
Pyrene, 1,3,6,8-tetraphenyl- (CA INDEX NAME)



68 CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD  
(5 CITINGS)

L9 ANSWER 61 OF 68 CAPLUS COPYRIGHT 2006 ACS on STN

Accession Number  
2004756795 CAPLUS Fulltext

Document Number  
141-288587

Title  
Organic electroluminescent device employing a derivative of 9,10-diaminoanthracene as a green luminescent dopant

Author/Inventor

Seo, Jeong Dae, Kim, Hee Jung, Lee, Kyung Hoon, Ch, Hyung Yun, Kim, Myung Seop, Park, Chun Gun

Patent Assignee/Corporate Source  
LG Electronics Inc., S. Korea

Source  
PCT Int. Appl., 35 pp. CODEN PXXD2

Document Type  
Patent

Language  
English

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004078872	A2	20040916	WO 2004-KR472	20040305
WO 2004078872	A3	20041216		
KR 2004079603	A	20040916	KR 2003-20469	20030401
US 2004020118	A1	20041021	US 2004-792130	20040304
EP 1603990	A2	20051214	EP 2004-717900	20040305
CN 1771313	A	20060109	CN 2004-00009291	20040305
JP 200519477	T	20060804	JP 2006-500655	20040305
JP 4129990	B2	20080806		
JP 2008172229	A	20080724	JP 2008-48	20080104

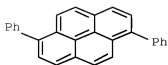
#### Abstract

Organic electroluminescent devices (OLEDs) are described which comprise a substrate, a first and second electrodes formed on the substrate, and a light-emitting layer formed between the first electrode and the second electrode, with the light-emitting layer having a plurality of materials and being a green luminescent material using a dopant with chemical formula I where at least one of A1 and A2 is selected from a substituted or non-substituted aromatic group, a heterocyclic group, an aliphatic group and hydrogen. The materials forming the light-emitting layer together with the material of chemical formula (I) may have the formula B1-X-B2 where X is selected from naphthalene, fluorene, anthracene, phenanthrene, pyrene, perylene, quaterone, and coquaterone, and at least one of B1 and B2 is selected from aryl, alkylaryl, alkoxyaryl, aryloxy, alkyloxy, and arylalkyl.

#### Hit Structure

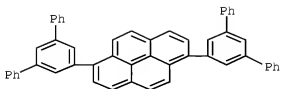
CAS Registry Number  
355009-73-1 CN/L0/8

Chemical or Trade Name  
Pyrene, 1,6-bis(phenyl)- (CA INDEX NAME)



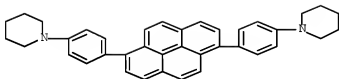
CAS Registry Number  
72490-40-2 CASUS

Chemical or Trade Name  
Pyrene, 1,6-bis[1,3,5-triphenyl]-5'-yl- (SCI) (CA INDEX NAME)



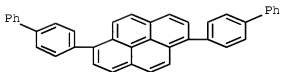
CAS Registry Number  
72490-70-6 CASUS

Chemical or Trade Name  
Pyrene, 1,1'-[1,6-pyrenediyl]di-4,1-phenylenebis- (SCI) (CA INDEX NAME)



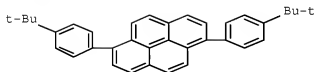
CAS Registry Number  
72490-71-7 CASUS

Chemical or Trade Name  
Pyrene, 1,6-bis[4-(1,1'-biphenyl)-4-yl]- (CA INDEX NAME)



CAS Registry Number  
72490-73-9 CASUS

Chemical or Trade Name  
Pyrene, 1,6-bis[4-(2,1-dimethylethyl)phenyl]- (CA INDEX NAME)



ON CITING REF COUNT: 2 THERE ARE 2 CASUS RECORDS THAT CITE THIS RECORD (2 CITINGS)

19 ANSWER 52 OF 68 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number  
2004160210 CAPLUS [Full-text](#)

Document Number  
141131023

Title  
Organic electroluminescent devices employing blue-emitting dopants based on amine derivatives of pyrene

Author/Inventor

Seo, Jong Dae, Lee, Kyung Hoon, Kim, Hee Jung, Park, Chan Gwan, Oh, Hyeung Yun

Patent Assignee/Corporate Source

Lg Electronics Inc., S. Korea

Source

Eur. Pat. Appl., 43 pp. CODEN EPKXDW

Document Type

Patent

Language

English

Patent Information

PATENT NO.	FIG.	FIG.	DATE	APPLICATION NO.	DATE
EP 1 437 999	A2	2004/0714	EP 2003-21661	20031223	
EP 1 437 999	A9	20050831			
KR 2004/07862	A	2004/0702	KR 2003-29465	20030401	
US 2004/037279	A1	2004/0715	US 2003-743778	20031224	
JP 2004/204238	A	2004/0722	JP 2003-420297	20031224	
JP 3926791	B2	20070606			
CN 1 535089	A	20041006	CN 2003-10124405	20031224	
CN 1 00481574	C	20090422			
JP 2007027779	A	20070291	JP 2006-245563	20060811	

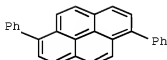
Abstract

Organic electroluminescent devices are described which comprise a substrate, a first and second electrodes formed on the substrate, an emitting layer formed between the first electrode and the second electrode, the emitting layer having a plurality of materials one of which being a blue-emitting dopant with general formula (I), where at least one of A1 and A2 is selected from a substituted or non-substituted aramyl group, a heterocyclic group, an aliphatic group and hydrogen. The materials forming the emitting layer together with the material of I may have a chemical formula B1-X-B2 where X is selected from a group consisting of naphthalene, anthracene, phenanthrene, pyrene, perylene, and quinoline and at least 1 of the B1 and B2 is selected from a group consisting of aryl, alkylaryl, alkoxyaryl, arylaminoaryl and alkylaminoaryl.

HC Structure

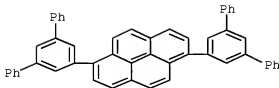
CAS Registry Number  
55009-75-1 CAPLUS

Chemical or Trade Name  
Pyrene, 1,6-diphenyl- (CA INDEX NAME)



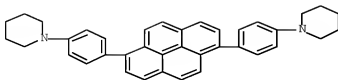
CAS Registry Number  
722498-68-2 CAPLUS

Chemical or Trade Name  
Pyrene, 1,6-bis[4-(2,5'-di-3',3''-terphenyl)-5''-yl]- (SC1) (CA INDEX NAME)



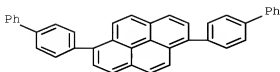
CAS Registry Number  
722498-10-6 CAPLUS

Chemical or Trade Name  
Piperidine, 1,1'-[1,4-pyrenediyl]di-4,1'-phenylenebis- (SC2) (CA INDEX NAME)



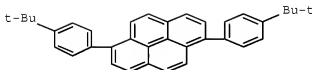
CAS Registry Number  
722696-11-7 CAPLUS

Chemical or Trade Name  
Pyrene, 1,6-bis[4-(1,1'-biphenyl)-4-yl]- (CA INDEX NAME)



CAS Registry Number  
722696-13-9 CAPLUS

Chemical or Trade Name  
Pyrene, 1,6-bis[4-(1,1'-dimethylethylphenyl)- (CA INDEX NAME)



CITING REF COUNT: 0 THERE ARE 0 CAPLUS RECORDS THAT CITE THIS RECORD  
(27 CITINGS)

19 ANSWER 33 OF 66 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number

2004-27438 CAPLUS Full-text

Document Number

140 102195

Title

Organic electroluminescent devices and displays with pyrene-containing vinyl polymer layers

Author(s)

Ebisawa, Akira, Shinkai, Masahiro

Patent Assignee/Corporate Source

TDK Corporation, Japan

Source

Jpn. Kokai Tokkyo Koho, 36 pp. CODEN: JKKKAF

Document Type

Patent

Language

Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004014305	A	20040115	JP 2002-166962	20020607
JP 4068996	B2	20080326		

Abstract

The devices comprise organic layers containing polymers of vinyl monomers (X1-H, alkyl, allyl, aryl, aryloxy, heterocyclic group, amino, cyano, halogen, etc of X1-H may form rings). Organic EL displays equipped with a panel containing multiple nos. of the devices arranged in 2-dimensional arrays are also claimed. Displays giving clear images with high luminance are obtained.

Hit Structure

CAS Registry Number  
643703-12-4 CAPLUS

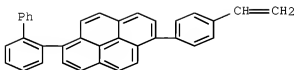
Chemical or Trade Name  
Benzo[ad]indole, 4-ethenyl-9,10-bisphenyl-, polymer with  
1-[1,1'-biphenyl]-2-yl-6-(4-ethenylphenyl)pyrene (9C3) (CA INDEX NAME)

CM

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CMN 643703-69-8

CMF C36 H24

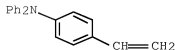


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CMN 25049-74-3

CMF C20 H17 N

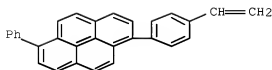


CAS Registry Number  
643753-70-2 CAPLUS

Chemical or Trade Name  
Pyrene, 1-(4-ethenylphenyl)-6-phenyl-, homopolymer (PCT) (CA INDEX NAME)

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CFR 643753-67-7  
CMF C10 H10

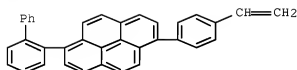


CAS Registry Number  
643753-70-5 CAPLUS

Chemical or Trade Name  
Pyrene, 1-(1,1'-biphenyl)-2-yl-6-(4-ethenylphenyl)-, homopolymer (PCT)  
(CA INDEX NAME)

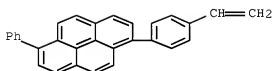
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CFR 643753-68-8  
CMF C36 H24



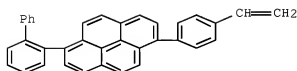
CAS Registry Number  
643753-67-7 CAPLUS

Chemical or Trade Name  
Pyrene, 1-(4-ethenylphenyl)-6-phenyl- (CA INDEX NAME)



CAS Registry Number  
643753-68-8 CAPLUS

Chemical or Trade Name  
Pyrene, 1-(1,1'-biphenyl)-2-yl-6-(4-ethenylphenyl)- (CA INDEX NAME)



19 ANSWER 64 OF 68 CAPLUS COPYRIGHT 2009 ACS on STN  
Accession Number  
2003 854088 CAPLUS 643753

Document Number  
139.204830

Title  
Organic electroluminescent elements containing organic thin layer comprising 1,3,6,8-tetraphenylpyrene derivative and a carbazole derivative, and organic electroluminescent displays employing the elements

Author/Inventor  
Kawachi, Masaru, Sotayama, Wataru, Kodama, Jun, Okumoto, Yasuo

Patent Assignee/Corporate Source  
Fujitsu Limited, Japan, Fujitsu Photo Film, Ltd

Source  
U.S. Pat. Appl. Publ. 19 pp CODEN USXXCO

Document Type  
Patent

Language  
English

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

US 20030157365	A1	20030821	US 2002-078666	20021024
US 7060370	B2	20060613		
JP 2003234190	A	20030822	JP 2002-29335	20020206
JP 3841695	B2	20061101		
KR 918548	B1	20050921	KR 2002-66343	20021030

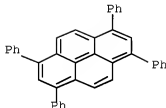
#### Abstract

Organic electroluminescent elements and organic electroluminescent displays employing the elements are described in which the electroluminescent elements comprise an organic thin film layer which contains a light-emitting layer between a pos. electrode and a neg. electrode, where a layer in the organic thin film layer comprises a 1,3,6,8-tetraphenylpyrene compound expressed by formula I, and a carbazole derivative expressed by formula II, in which R1 to R6 may be identical or different, and may be 1 of a H and a substituent group, Ar represents an aromatic group or heterocyclic group, and n represents an integer

#### HR Structure

CAS Registry Number  
13630-82-9 CN/US

Chemical or Trade Name  
Pyrene, 1,3,6,8-tetraphenyl- (CA INDEX NAME)



GB CITING REF COUNT: 2 THERE ARE 2 CAPLUS RECORDS THAT CITE THIS RECORD  
(3 CITINGS)

LI ANSWER 69 OF 66 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number

2002 867825 CAPLUS [Fulltext](#)

Document Number

13737726

Title

Organic electroluminescent device containing aromatic condensed ring compound

Author/Inventor

Suzuki, Kazuo; Senoo, Akio; Tanabe, Hiroshi

Patent Assignee/Corporate Source

Canon Inc., Japan

Source

Jpn. Kokai Tokkyo Koho, 50 pp. CODEN JXXXXF

Document Type

Patent

Language

Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002329580	A	20021115	JP 2000-36804	20020214
JP 3870102	B2	20070117		
US 20020177509	A1	20021126	US 2000-77506	20020220
US 6830629	B2	20041214		
US 20050048318	A1	20050369	US 2004-940734	20040915
US 6994922	B2	20060207		
JP 2007013199	A	20070118	JP 2006-230669	20060828

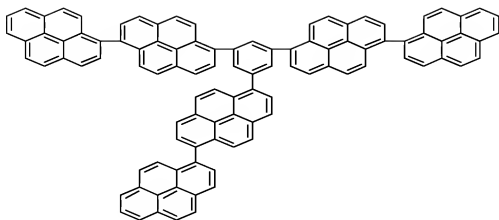
#### Abstract

The electroluminescent device has (i) organic layer containing aromatic condensed ring compound a benzene substituted with R1-4 and Ar1-2 (I), or a benzene substituted with R5-9 and Ar5-8 (II) (R1-R9 = H, alkyl, (substituted)arylalkyl, (substituted)heterocycle, (substituted)amino, cyano, Ar1-Ar9 = (substituted)aromatic condensed ring, (substituted)condensed heterocycle, optionally linked via phenylene), preferably claimed compds. II (R5-R7 = H, Ar5-Ar9 = LH at 1,3,5-positions), L = 9,9-dimethylfluorene-2,7-diyl, II (R5-R7 = H, Ar5-Ar9 = L2H at 1,3,5-positions), III (R8 = R9 = H, Ar8-Ar9 = LH at 1,2,4,5-positions), or II (R8 = R9 = H, Ar8-Ar9 = L2H at 1,2,4,5-positions), an electron-transporting or light-emitting layer between a cathode and an anode. The organic layer in the device is useful as an electron-transporting layer, an emitting layer, and a hole-injection-blocking layer and the device shows high emission, low driving voltage, and improved durability.

#### HR Structure

CAS Registry Number  
475460-39-2 CN/US

Chemical or Trade Name  
1,1'-Bispyrene, 6,6'',6'''-(1,3,5-benzenetriyl)tris- (CA INDEX NAME)



69. CITING REF COUNT: 14 THERE ARE 14 CAMELID RECORDS THAT CITE THIS RECORD (22 CITINGS)

L9 ANSWER 66 OF 66 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number

1994-3232420 CAPLUS Fulltext

Document Number

120-3232420

Title

The Influence of Planarity and Rigidity on the Absorption and Fluorescence Parameters and Intersystem Crossing Rate Constant in Aromatic Molecules

Author(s)

Niegedorff, N. I.; Downey, W. S.

Patent Assignee/Corporate Source

Physics Department, University of Botswana, Gaborone, Botswana

Source

Journal of Physical Chemistry (199-4), 98(25), 5639-43 CODEN: JPCCHX, ISSN: 0022-5654

Document Type

Journal

Language

English

Abstract

Fluorescence properties of 23 specially chosen aromatic moieties, different in degrees of planarity and rigidity but family-related in  $\pi$ -structure, are experimentally studied and analyzed. The quantum yields of fluorescence,  $\phi_f$ , and decay times,  $\tau$ , of deaerated and nondeaerated cyclohexane solutions are measured. The oscillator strengths,  $f_e$ , the fluorescence rate constants,  $k_f$ , natural lifetimes,  $\tau_0$ , and intersystem crossing rate constants,  $k_{isc}$ , are calculated. Investigators showed differences in behavior of fluorescence parameters from the nonplanar moiety to the planar and more rigid type in the following ways: the values of symmetry line wave number,  $\nu_{00}$  (frequency of  $S_0 \rightarrow S_1$  transition), and Stokes shift,  $\Delta\nu_{st}$ , decrease. The oscillator strengths, with consequences for the fluorescence rate constant, normally decrease. The changes in the quantum yield of fluorescence observed upon changes in the  $H$  and  $K$  and  $\nu_{00}$  and  $\Delta\nu_{st}$  decrease. The oscillator strengths, with consequences for the fluorescence rate constant, normally decrease. The changes in the quantum yield of fluorescence observed upon changes in the  $H$  and  $K$  and  $\nu_{00}$  and  $\Delta\nu_{st}$  decrease. Furthermore, the intersystem crossing rate constant generally decreases, but there are some important exceptions. For example, the  $k_{isc}$  value of the nonplanar moiety (9,10-diphenylanthracene) is less than the  $k_{isc}$  value of the planar and more rigid moiety (anthracene). The results obtained are important for further understanding of the influence of structural factors in aromatic moieties on the intramolecular transformation of light energy absorbed and can be useful in the quest for effective fluorescent dyes for use in dye-laser technology.

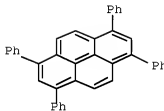
HR Structure

CAS Registry Number

11538-82-9 CAPLUS

Chemical or Trade Name

Pyrene, 1,3,6,8-tetraphenyl- (CA INDEX NAME)



06 CITING REF COUNT: 77

THERE ARE 77 CAPLUS RECORDS THAT CITE THIS RECORD (77 CITINGS)

L9 ANSWER 67 OF 66 CAPLUS COPYRIGHT 2009 ACS on STN

Accession Number

1977-508514 CAPLUS Fulltext

Document Number

07-108514

Title

Electrogenerated chemiluminescence. 30 Electrochemical oxidation of osalate on in the presence of luminers in acetonitrile solutions

Author(s)

Cheng, Ming-Ming; Saji, Tetsuo; Bard, Allen J.

Patent Assignee/Corporate Source

Dep Chem, Univ Texas, Austin, TX, USA

Source

Journal of the American Chemical Society (1977), 99(16), 5399-403 CODEN: JACSAT, ISSN: 0002-7863

Document Type

Journal

Language

English

Abstract

The electrochemically mediated oxidation of osalate at a Pt electrode in MeCN solution, as studied by cyclic and rotating-ring disk voltammetry and controlled potential coulometry, shows an irreversible 2-electron oxidation at approx 0.3 V vs SCE to CO<sub>2</sub> with no intermediates detectable by these techniques. The oxidation of osalate in the presence of several fluorophores (such as uridine, 9,10-diphenylanthracene, and the bipyridyl chelates of Ru(II) and Cu(II)) does not produce light, but emission characteristics of the fluorophore occur during the simultaneous oxidation of the additive and osalate. Studies of the conditions for emission in the presence of thiathrene and naphthalene lead to a mechanism for the oxidation of osalate and the oxidation process based on oxidation of osalate to CO<sub>2</sub> and CO<sub>2</sub><sup>-</sup>, which undergoes rapid decomposition to CO<sub>2</sub> and CO<sub>2</sub><sup>-</sup>. The CO<sub>2</sub><sup>-</sup> can transfer an electron to the additive moiety to produce a radical anion, which can then undergo an electrochemiluminescence quenching reaction with the electrochemically generated radical cation.

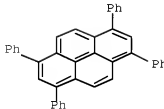
HR Structure

CAS Registry Number

11538-82-9 CAPLUS

Chemical or Trade Name

Pyrene, 1,3,6,8-tetraphenyl- (CA INDEX NAME)



06 CITING REF COUNT: 53

THERE ARE 53 CAPLUS RECORDS THAT CITE THIS RECORD (53 CITINGS)





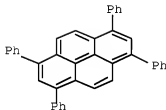
[illegible]

phenanthrenequinone-4,5-dicarboxylic acid, yellow, m. 298° (decomposition); o-C<sub>10</sub>H<sub>6</sub>NH<sub>2</sub>O<sub>2</sub> gives an isomeric crystalline form PhH<sub>2</sub>O<sub>2</sub> as the anhydride, pale yellow, m. 340°. LXIII (10 g.) with alkaline KMnO<sub>4</sub> gives 4.4 g. of 6-phenyl-2,2,6,6-tetracarboxylic acid, m. 390° (decomposition). Pyrene-1,2-quinone (LXIV), golden orange, m. 310°, results in 11 g. yield on oxidizing the LXV from 18.2 g. LXV or in 0.5 g. yield from the alkali melt of 1.5 g. LXV; same, yellow, m. 360°, giving a blue-green color in concentrated H<sub>2</sub>SO<sub>4</sub>, alkaline hydrosulfite gives a yellow-red from which air ppt. LXV. Further oxidation of LXV with CrO<sub>3</sub> in AcOH at 90° gives pyrene-1,2,6,7-tetraone, yellow, m. 355° (decomposition), the diphenazine derivative, light yellow, m. above 420°. LXIII (12.5 g.) and PhNH<sub>2</sub>H<sub>2</sub> in AcOH give 11.9 g. of 1-hydroxy-2-phenylazopyrene (LXV), light red with greenish metallic luster, m. 197°. SnCl<sub>2</sub> in HCl-AcOH gives 90% of the HCl salt, needles, of 1-hydroxy-2-aminopyrene (LXVI), light grayish yellow, close-melt m. 400°. LXII (50 g.) in 40% cc. AcOH and 50 g. NH<sub>4</sub>H<sub>2</sub>SO<sub>4</sub> refluxes 0.5 h., give 32 g. of 1-hydroxypyrene (LXVII), brownish, m. 265-71° it also results in about 1 g. yield by reduction of LXV with SnCl<sub>2</sub> in concentrated HCl-AcOH by heating in an autoclave for 5 h. at 150°, with PhHCl<sub>2</sub> LXVI yields LXV. Ac derivative of LXVII, pale yellow, m. 113-14°. Heating 100 g. LXVIII with 41 concentrated NH<sub>4</sub>OH and 400 cc. (NH<sub>4</sub>)<sub>2</sub>SO<sub>4</sub> solution 8 h. at 150° gives 70-80 g. of 1-aminopyrene, light yellow, m. 182°. LXVIII (50 g.) 300 g. 80% H<sub>2</sub>SO<sub>4</sub> and 25 g. C<sub>10</sub>H<sub>5</sub>OH<sub>3</sub>, heated at 120-51° for 0.75 h., give 4 g. 1,8,9-triphenyl-9-phenyl, brilliant yellow, m. 245°. It also results from 1, C<sub>10</sub>H<sub>5</sub>OH<sub>3</sub> and H<sub>2</sub>SO<sub>4</sub>. Finally there is a discussion of the distribution of the valences in I.

# HR Structure

CAS Registry Number  
13638-82-9 CAS105

Chemical or Trade Name  
Pyrene, 1,3,6,9-tetraphenyl- ICA INDEX NAME)



OR CITING REF COUNT: 56 THERE ARE 56 CASLINE RECORDS THAT CITE THIS RECORD (56 CITINGS)

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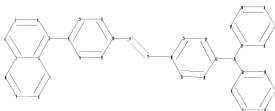
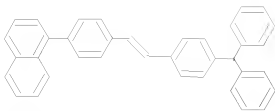
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16 356 SEA FILE=REGISTRY SSS FUL L5

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18 14 SEA FILE=CAPLUS SPS=ON ABB=ON PLO=ON L7 AND ELECTROLUMINESCENCE
18 YES
18 D 1818 ABS HITSTR 1-
19 49 SEA FILE=CAPLUS SPS=ON ABB=ON PLO=ON L7 AND LIGHT
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\* \* \* \* \* Welcome to DTN International \* \* \* \* \*

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ring nodes : 1
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ring bonds :
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next/prev bonds :
23-26 26-27 26-28
next bonds :
1-11 14-17 17-19 19-20
normalized bonds :
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containing 11 : 20 : 27 : 28 :
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L4 ANSWER 1 OF 3 CAPLUS COPYRIGHT 2011 ACS on STN  
Accession Number  
200025608 CAPLUS (ulist)  
Document Number  
15285990

Title  
Distyrylene derivative for organic electroluminescence device  
Author/Inventor  
Asuma, Masahiro, Hosokawa, Chisato, Kusumoto, Tadashi  
Patent Assignee/Corporate Source  
Idemitsu Kosan Co., Ltd., Japan

Source  
Jpn. Kokai Tokkyo Koho, 18 pp. CODEN: JKOXAF

Document Type  
Patent

Language  
Japanese

PATENT NO	KIND	DATE	APPLICATION NO.	DATE
JP 2000007604	A	20000111	JP 1998-171283	19980618

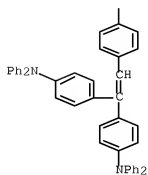
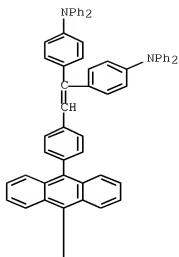
Abstract

The distyrylene derivative has structure (R1)VR2C=CH-Ar1-Ar2-CH=C(R3)R4) (Ar is a divalent fused ring; Ar1-2 = single bond, C6-30 arylene, polyarylene; R1-4 = H, C6-30 silyl, polysilyl). The distyrylene derivative provides the improved luminescence efficiency and the decreased driving voltage.

HR Structure

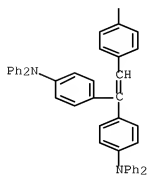
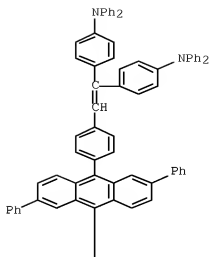
CAS Registry Number  
253870-04-3 CAPLUS

Chemical or Trade Name  
Benzonamine, 4,6,8,11,14,17,19,20-anthracenediylbis[4,2'-phenylene-2-methenyl-1-glucene]tercetyl[9,9'-biphenyl]- (PCT) (CA INDEX NAME)



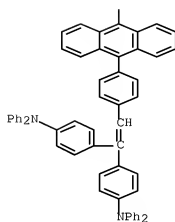
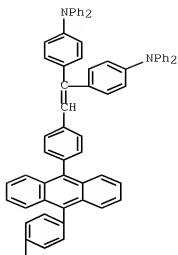
CAS Registry Number  
253870-07-4 CAS#173

Chemical or Trade Name  
Benzonamine, 4,6',4'',4'''-[(2,6-di(phenyl)-9,10-anthracenediyl)]bis(4,1-phenylene-2-ethenyl-1-ylidene)]tetrakis[6,8-diphenyl]- (PCE) (CA 106362)  
SNAME



CAS Registry Number  
253870-10-9 CAS#173

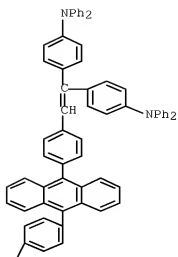
Chemical or Trade Name  
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SINE)



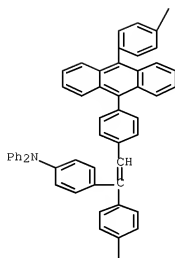
CAS Registry Number  
253870-21-0 CAS105

Chemical or Trade Name  
Benzonamine, 4,4',4'',4'''-([1,1'-biphenyl]-4,4'-diylbis[10,9-  
anthracen-2-yl]-4,1'-phenylene-2-ethenyl-2-ylidene)tetraakis[N,N-diphenyl-  
(9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



PAGE 3-A





Accession Number

1993 334593 CAPLUS [File-Info](#)

Document Number

122 136094

Title

Aso compounds and diazonium salts and manufacture thereof

Author/Inventor

Shimoda, Masakatsu

Patent Assignee/Corporate Source

Ricoh K. K., Japan

Source

Jpn Kokai Tokkyo Koho, 14 pp. CODEN: JPOKAF

Document Type

Patent

Language

Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 04184430	A	19940705	JP 1992-354591	19921216

#### Abstract

The file also compds having high solubility, mol extinction coefficient and reflectance, useful for optical recording media have the general formula p-PhCNCRHACH CHC6H4N HQ p (Q = coupler residue), 4-Amino-4'-(diphenylamino)stilbene was diazotized and treated with  $\text{NaBF}_4$  to give a diazonium salt which was then coupled with p-naphthol to obtain given I.

#### Hit Structure

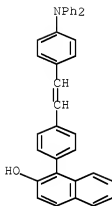
CAS Registry Number

145724-43-2 CAPLUS

Chemical or Trade Name

2-Naphthol, 1-[4-{2-[4-(diphenylamino)phenyl]ethenyl}phenyl]- ICA

INDEX NAME



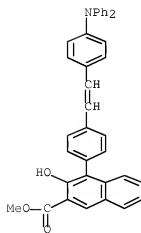
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Chemical or Trade Name

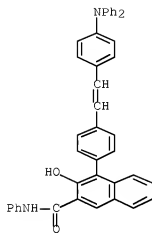
2-Naphthol, 1-[4-{2-[4-(diphenylamino)phenyl]ethenyl}phenyl]-3-hydroxy-, methyl ester ICA INDEX

NAME



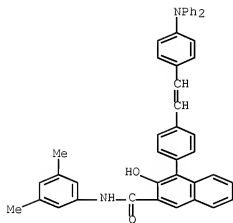
CAS Registry Number  
160714-30-1    CAPLUS

Chemical or Trade Name  
2-Naphthalenecarboxamide, 4-[4-[2-[4-(diphenylamino)phenyl]ethenyl]phenyl]-3-hydroxy-N-phenyl-    (CA INDEX NAME)



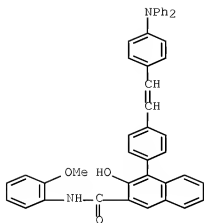
CAS Registry Number  
160714-51-2    CAPLUS

Chemical or Trade Name  
2-Naphthalenecarboxamide, N-[3,5-dimethylphenyl]-4-[4-[2-[4-(diphenylamino)phenyl]ethenyl]phenyl]-3-hydroxy-    (CA INDEX NAME)



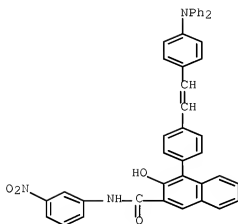
CAS Registry Number  
160714-30-3    CAPLUS

Chemical or Trade Name  
2-Naphthalenecarboxamide, 4-[4-[2-[4-(diphenylamino)phenyl]ethenyl]phenyl]-3-hydroxy-N-[2-methoxyphenyl]-    (CA INDEX NAME)



CAS Registry Number  
160714-53-4 CAPLUS

Chemical or Trade Name  
2-Naphthol-1-one-2-oxo-2-ylidene, 4-[4-[2-[6-(dimethylamino)phenyl]ethynyl]phenyl]-  
3-hydroxy-N-[3-nitrophenyl]- (CA 28083 0045)



L4 ANSWER 3 OF 3 CAPLUS COPYRIGHT 2011 ACS on STN

Accession Number  
1987524445 CAPLUS Fulltext

Document Number  
106324445

Title  
Electrophotographic charge-generating azo-photoconductors

Author/Inventor  
Matsunobu, Masakazu; Umemura, Masahiro; Takiguchi, Takao; Yamashita, Masataka; Ishikawa, Shozo  
Patent Assignee/Corporate Source  
Canon K. K., Japan

Source  
Jpn. Kokai Tokkyo Koho, 23 pp. CODEN: JX00AF

Document Type  
Patent

Language  
Japanese

Patent Information

PATENT NO.	IND.	DATE	APPLICATION NO.	DATE
JP 61240251	A	19861116	JP 1985-101514	19850515
JP 63070271	B	19911106		
US 4735882	X	19880405	US 1986-844980	19860601

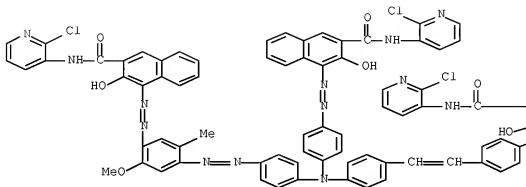
Abstract  
The azo compounds have the formula (A-N=N2/CH-CH2Z/9N/CH2N/4N-N-A/25N/26N-N-A) (I) or (A-N=N2/CH-CH28N/29CH-CH2/10N-N-A/21/11N/21/26N-N-A) (Z1-Z12 = arylene, heterocyclylene; A = coupler residue having phenolic OH group; n = 0-1). A photoconductor was prepared by dispersing in poly(vinyl butyral) binder an azo compound of the formula (Z1-Z2 = Z4 = Z5 = Z6 = 1,4-phenylene; n = 0; A = coupler residue from naphthol AS) to give a charge-generating layer and dispersing in PMMA binder a hydrazone compound to form a charge-transporting layer.

HR Structure

CAS Registry Number

Chemical or Trade Name  
 2-Naphthalenecarboxamide, N-(2-chloro-3-pyridinyl)-4-[6-[2-{4-[[4-[[3-  
 [[2-chloro-3-pyridinyl]amino]carbonyl]-2-hydroxy-2-naphthalenyl]amino]-5-  
 methoxy-2-methylphenyl]azo]phenyl][4-[[3-[[2-chloro-3-  
 pyridinyl]amino]carbonyl]-2-hydroxy-2-naphthalenyl]amino]phenyl]ethylphenyl]-3-hydroxy- (9CI) (CA  
 INDEX NAME)

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PAGE 1-B



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 ALL L# QUERIES AND ANSWER SETS ARE DELETED AT LOGOFF  
 LOGOFF! (Y/N/HELP/y)

(FILE 'HOME' ENTERED AT 09:05:34 ON 05 JAN 2011)

11 FILE 'REGISTER' ENTERED AT 09:56:15 ON 05 JAN 2011  
 12 STRUCTURE REQUIRED  
 26 SEA FILE=REGISTER SSS FUL L1

13 FILE 'CAPLUS' ENTERED AT 09:57:48 ON 05 JAN 2011  
 14 15 SEA FILE=CAPLUS SPS=ON ABB=ON PUJ=ON L2  
 3 SEA FILE=CAPLUS SPS=ON ABB=ON PUJ=ON L3 AND IPT=2004 OR  
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